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THE ILLUSTRATED POULTRY RECORD



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EDITORIAL NOTICES.

Telegrams: "CHICKENDOM." Telephone: 1999 P.O.CITY.
ENTERED AT STATIONERS' HALL.

The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs, or sketches, and publication in the ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual Subscription to the ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to Brown, Dobson, and Co., Limited.

The ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor. The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

The Dairy Show.

Once more has the great Islington fixture come and gone, and now that it is an event of the past we have time to think matters quietly over, since the opportunity of doing so rarely occurs while the exhibition is in progress. Of late years the Hayward's Heath Show, which is always held about the middle of September, has been referred to as "the preliminary canter," and it is generally considered that a bird which is good enough to win at that show is almost a certainty for the Dairy. But, still using racing parlance, it often happens that "a dark horse" is held back for what is unquestionably the opening event of the autumn season. That was the case this year, and although several of the Hayward's Heath winners were again heading their respective classes (we could mention over a score which did so), some had to stand down for admittedly better birds which had been kept back solely for the Dairy.

The Cancelled Classes.

Two matters in connection with the show at the Agricultural Hall seem to call for a special word of censure. The first relates to the cancelling of classes. It is not the first occasion on which classes have been struck out of the lists at the Dairy Show; but we cannot help thinking that at an exhibition of such great importance as this one it should not be permitted. At the late event no fewer than nineteen classes were expunged. Nevertheless, we feel sure that all should have been allowed to stand; nay, we will go farther and say that all could have remained had there been a little effort on the part of the executive to save them. It is supposed to be *infra dig.* for such an important event as the Dairy to tout for entries. However, there can be

no loss of dignity in endeavouring to have each class which is scheduled repeated in the catalogue. To cancel classes bears hardly upon visitors to the show who come from a distance and find that their favourite breed has been altogether, or in part, removed from the list. The Cochin fanciers, for example, who favour Buffs, Whites, or Blacks, and who found that there were no chickens exhibited, must have had a feeling that the inspection of even a trio of each variety would have given them a better idea as to how the youngsters were likely to turn out this year than the perusal of the bald statement in the catalogue, "Cancelled." We think that the committee would have found it advantageous to rely upon the excess of entries in one breed making up for the deficiency in another. It is a question that the poultry committee of the Dairy Show would do well to consider for another year.

Overlooked Orpingtons.

Then there was the matter of some Buff Orpingtons being left in their baskets under the benches until judging was completed on the first day. For this we feel that the stewards were solely to blame. We have it on excellent authority that every hamper was checked in, and that each steward (and they are picked men at the Islington fixture) reported that all birds received had been penned. Are we to conclude, then, that some unscrupulous person entered the exhibition ere judging commenced on the Tuesday, and deliberately unpenned the birds in question and returned them to their hampers? It might have been so, but we greatly doubt it. It must have been one of those unfortunate oversights which occur on rare occasions even in the best regulated shows. It is only fair to add that the classes were rejudged on the second day, and that extra prizes and cards were awarded, but it cannot be said to be an entirely satisfactory method. However, it is not likely to occur again.

The Utility Side of the Dairy Show.

Point is given to this aspect of the great collection at the Agricultural Hall by the arrangement of the classes—the table poultry section being in the forefront of the catalogue. Much of the subsequent classification is not without a similar significance, and the utilitarian can find many satisfying specimens among the older breeds before he plunges into the more modern maze and finally emerges—through the multitude of pygmies—into the practical region of ducks and geese and turkeys. During his tour of the pens the commercial producer doubtless saw much that was puzzling, as well as much that directly appealed to him; but he and the fancier met on

common ground among the appliances, of which this year's collection was particularly attractive and comprehensive. The stands of the manufacturers and the purveyors of feeding stuffs are alone well worth a journey to Islington, so instructive are they of the advance and present strong position of the poultry industry. No one can survey the serried array of portable poultry-houses, scratching-sheds, coops, runs, incubators, brooders, and almost innumerable accessories of incubation and rearing, without in some measure realising the importance of the production that has elicited this varied ingenuity of complemental enterprises. It is equally impossible to miss the impression conveyed by the many evidences of the estimation in which the poultry-keeper is held by the miller and the mixer and manufacturer of patent foodstuffs. Whatever may be its other meanings, the Dairy Show is a huge object-lesson of the growth of the British poultry producer, and his practical side presents itself at every turn.

Our "Cinderella" Article.

"Statistician" has certainly awakened a large amount of interest by his article entitled "The Cinderella of Agriculture," which appeared in our last issue. Few people were aware of the fact that the poultry industry has been neglected by many of those entrusted with administration of public funds for encouragement of home production; but the striking way in which our contributor, taking official figures as the basis, has shown the present position has commanded attention. This article has been widely quoted in the general Press from the *Times* onwards, and the publicity thus obtained will, we hope, speedily secure an altered condition of affairs. In order to bring the question before those who have influence, copies of this article were sent to all Members of Parliament, to a number of Peers, and to every County Council, from whom we have had a large number of appreciative replies, promising support.

Germany's Influence.

The facts and figures which Mr. Verney Carter presents in the present issue help us to realise the changes which are going on and anticipate future developments. We specially commend, therefore, to all who are interested in the poultry industry the importance of an immediate and earnest attention to the need for a largely increased home production. The opportunity for British and Irish poultry-keepers alike was never so great as it is now, not merely by reason of increasing demand at home, but on account of falling egg supplies from abroad. Reduction of supply is not confined to one country; all that serve our markets share in it. Part is due to growing consumption and better prices in the

place of production, but more to the vastly increasing requirements of Germany. It is by no means improbable that within a few years eastern and southern European eggs and poultry imported into the United Kingdom will be largely reduced owing to Germany being nearer to the region of production and able to pay more for them. That shows imperatively the essential need for greater home production to fill the gap, otherwise prices will advance beyond the power to pay of the great mass of our people. Now is the time for English, Welsh, Scottish, and Irish farmers and others to bestir themselves as they have never done before. It is also a question of national concern, and therefore central and local authorities, county councils, and agricultural colleges, should be galvanised into practical and adequate support for the poultry industry at large.

Irish Poultry Statistics.

The returns issued by the Irish Department of Agriculture for 1908 indicate that the poultry industry is making progress in that country. The number of poultry returned in 1909 amounts to 24,101,883, as compared with 24,031,095 in 1908, showing an increase of 70,788, though, as given below, this is entirely in ordinary fowls. Increases are recorded in Ulster and Munster, and decreases in Leinster and Connnaught. Of the total named the divisions are as follows : Turkeys, 1,022,828 (a decrease of 28,839); geese, 1,825,844 (a decrease of 12,508); ducks, 3,466,528 (a decrease of 10,476); and fowls, 17,786,683 (an increase of 122,611). The decrease in turkeys is the most serious, as that is a branch which ought to be capable of great development in many parts of Ireland. It may be hoped that every effort will be put forward to encourage turkey-breeding, for which the sister isle is in every way favourable. At the same time, we have to hand the report as to trade in imports and exports, which is dealt with in our marketing section, from which it will be seen that poultry products stand second in value of Irish exports, as was the case in 1907.

Irish Eggs at the Grocers' Exhibition.

In the special display of Irish breakfast commodities at the above Exhibition, held at the Agricultural Hall, the eggs did great credit to, and spoke eloquently of, the work the Irish Federated Poultry Societies have accomplished. The manner in which some of the societies had graded and packed their eggs left little to be desired. They were as well handled as Danish or French. The Irish societies have adopted cases that hold eight great hundreds, these having the double advantage of being more

suitcd for transit from Ireland and being distinctive from Continental packages.

Poultry Diseases.

Advancement in every department of human knowledge has been by unlearning as well as learning. That is essentially the case in dealing with domesticated animals. First, there is theory, without which progress would be impossible; and, secondly, practical application of the theory, by which its value is tested and reconsidered. The great increase in the number of poultry kept required adoption of new conditions, by means of which natural checks and influences have been changed to some extent, and the result is seen in an increasing amount of disease, whilst the greater value of the birds demanded a measure of attention undreamt of before. That has been equally true with human beings and all classes of animals and plants. In the absence of scientific study of poultry diseases, breeders were compelled to adopt simple remedies which had either apparently proved successful or were used for similar affections with other animals. A study of poultry-books, great and small, has revealed the fact that in the great majority of cases recommendations made for treatment merely deal with effects, not causes, and that probably such beneficial results as have been reached are due to better conditions and the greater appreciation of hygienic principles. It is still, however, largely a matter of chance. The time has now come when the importance of the poultry industry, its monetary value to individual breeders, and as a question of food supply to the nations at large, demands that the study of poultry diseases, their cause, prevention, and remedies, must be carried out by specialists capable of dealing with the subject on the broadest lines. But behind them must be breeders and writers, the one to apply the knowledge obtained, to test it practically, and the other to make it available to all concerned.

Investigation of Disease.

Probably in no department of human knowledge has greater progress been made than in medical science during the last half-century. But we are only at the beginning. There is much yet to be learnt and unlearnt. Within the last few years the entire basis has been changed. Our forefathers knew nothing of microbes or bacteria. Unless they could see these their existence was ignored. What we require is that men of scientific training shall make a study of the special diseases found in connection with poultry, and be able to devote the time necessary for investigation of what are very difficult and serious problems. The interests are too vast, the cost of such investigation too great, for this to be left to private enterprise. Public money ought to be

available, and to a sufficient extent. The claim made by Dr. Morse at Guelph last February—namely,

That is to have every agricultural college and every experiment station supplied with a poultry pathologist, who shall devote full time to the study of the organisms of disease which may, by the remotest possibility, affect poultry, and bring all data thus secured to bear upon the elucidation of poultry diseases

—is justified to the fullest degree. But, whilst scientific research is imperatively needed, it must not be merely for the sake of science. The practical, sensible application of such knowledge should ever be kept in view. Scientists sometimes are inclined to forget the object in the glamour of the pursuit. We want to prevent disease rather than to cure it, but we must know what it is, and the conditions most favourable to development, and, in case of cure, treatment must be practical. Some years ago Pasteur advocated inoculation against chicken cholera. Any such idea as that is absolutely useless. Our business is to alter the environment, so that our birds can resist the attacks of their enemies.

Our Special Representative's Return from America

After an absence of five months Mr. Will Brown, who has been touring Canada and the United States in the interests of the POULTRY RECORD, returned home by the American line steamer Philadelphia, which made Plymouth on Saturday, October 9. Although, as stated in our October issue, illness made a sudden change in his plans, he appears to have had a very successful trip in every sense of the word. It is unfortunate, however, that he was unable to visit all the Western States of America, for there he would have found many points of interest to readers of the POULTRY RECORD. As can readily be understood, Mr. Brown has been very busy since his return, and therefore we are unable to publish anything from his pen on Canadian or American poultry-keeping in this issue, but we expect to have a few notes and comments to insert in our December number. We do not intend to publish anything like a complete series of articles on American poultry husbandry, and, therefore, if readers desire any special information relative either to methods adopted across the water or possibilities for settlers making a success of poultry work in Canada, we extend to them a cordial invitation to write direct to our office, when their letters will be replied to fully either in the columns of the POULTRY RECORD or privately.

An Offer to Poultry Societies.

As stated above, we do not intend to publish any series of articles on American poultry-keeping

in the POULTRY RECORD, but at the same time we realise that our special representative, who has been in Canada and the States during the past summer, has gathered a large amount of valuable information, the dissemination of which would undoubtedly help poultry-keepers in this country. To this end we have arranged with Mr. Will Brown to prepare an illustrated lecture on his tour, dealing with those points of difference in methods employed which would be most likely to interest poultry-keepers generally. During the coming winter Mr. Brown will be pleased to visit and lecture before a limited number of poultry societies without charge. The only expense to the societies will be that incurred by arranging for an oxy-hydrogen lantern and a qualified manipulator. We shall be glad to hear from any society desirous of accepting our offer.

For the Good of the Industry.

We have pleasure in announcing that the successful competitor for our £50 prize, the entries for which closed on September 30 last, is Mr. Charles Longbottom, of 28, St. Matthew-street, Burnley. Mr. Longbottom, moreover, is to be congratulated most heartily, not only on his winning the award, but on the use which he proposes to make of it; for he has decided to take the prize in the form of appliances to the value of the sum named, and to hand them over to the Northern Utility Poultry Society, "with a view" (as he writes us) "to assisting the Society with its laying competitions and for experimental purposes." Everybody who is anxious for the prosperity of the poultry industry will applaud his public-spirited generosity. Those readers who missed seeing our article on the N.U.P.S., published some few months since, may be interested to learn that this Society has been in existence about twelve years, and is largely composed of working-men enthusiasts. In all, eight laying competitions have been held, in which the egg records achieved by Buff Orpingtons, White Wyandottes, and White Leghorns have not been equalled in any other competition in England. The Society has also shown immense energy in other directions, lectures being a feature of its winter season, and excursions to leading poultry farms being arranged during the summer months. One may be sure, therefore, that its members may be trusted to increase the educational value and promote the general prosperity of their organisation by a judicious use of Mr. Longbottom's valuable gift, and indirectly to stimulate the interest felt in the poultry industry elsewhere.

Owing to extreme pressure on our space we are compelled to exclude Answers to Correspondents from this issue. Our Correspondents, however, have been answered by post.

AMERICAN EGG FARM



By T. F. McGREW

FREQUENTLY we have noticed reports of unnatural events that are given publicity, even though surface indications point direct to deception. The greater part of all this has come as an advertising scheme devised for selling something for more than its worth. This kind of publicity is prevalent at present with us on poultry topics. An attempt has been made, not only to have it appear that 200-egg-per-year hens were as plentiful as grasshoppers, but, better than this, 250-egg-per-year hens would appear as almost a waste product, as compared with the claim of two-egg-per-day hens, and some laying 70 per month. When we see statements like this in print we often wonder whether anyone would believe such tales even of America, but within a year we have been asked whether it is true that a person cannot go outside the city limits of Chicago at night without danger of being killed by wandering tribes of Indians; and another asked whether it is true that frizzle fowl is found wild in America. But notwithstanding all this there is a lot of good among us; in fact, much the greater part is good and true, and only a small portion is otherwise. But that smaller portion, like the thumb, is always on hand, talking loud and pushing its way into public notice. But we should not be surprised at their success, for their sweet, winning ways frequently mislead those of experience.

Without question America has more large farms devoted to poultry than any other country. The greater number of these farms are never mentioned in print because the owner is kept too busy to spend time blowing his horn to attract public attention, and is entirely too fond of a peaceful existence to admit a Press agent to his establishment. Plants of this kind are usually stocked with the best kinds of poultry, and many of them are the supply plants where the vendors of the Fancy go to replenish their sales counter.

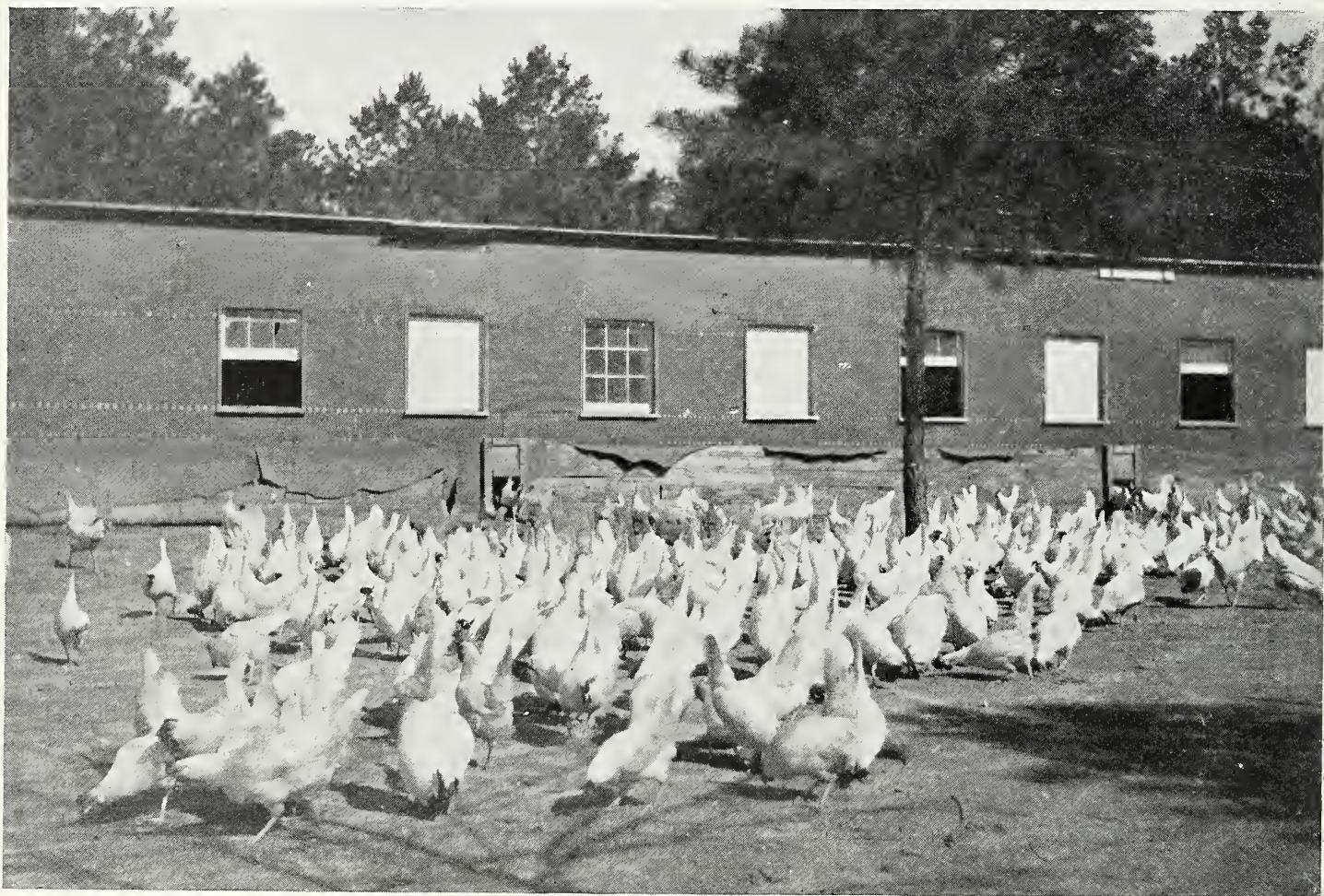
The greater portion of the exhibition water-fowl are selected from large flocks kept solely for producing ducks and geese for market.

One of the largest of these poultry farms is located at Brown's Mills, New Jersey. This is an egg-producing farm; the entire interest is devoted directly to producing the best eggs for market. White Leghorns only are kept, and at this time there are more than 9,000 yearling hens and this year's pullets upon the farm. These will be culled down to 8,000 winter layers, as this number can be cared for in the houses that are suited to winter quarters for laying hens. The farm contains almost two hundred acres. About one-half of it is overgrown with scrub oak and pine. This part is used for the poultry-yards. The balance is in fruit, clover, beans, peas, rye, and mangolds, the greater portion of which is grown for green food for the hens. It has been proved, satisfactorily at least to the owner, that green food gathered and cut fine and fed is fully equal to grazing of the same by the hens. No better results can be gained on this farm, at least from grazing the hens over fields of rye during winter, than from cutting and feeding it to them.

About seventy-five acres of the farm is divided or separated into large enclosures; this is fenced with poultry-netting 8ft. high. The brooder-house runs and the breeding- and cockerel-pens occupy the space in the centre of the farm; to the right and left of these are located the laying-houses, and directly in the rear is the open range for the growing pullets. All cockerels and undesirable pullets are sold as broilers at twelve weeks of age or younger, except a sufficient number of the more desirable cockerels, which are kept to be of use during the hatching season. During the past season more than 7,000 broilers have been sold, the greater portion of them being shipped alive to those who make a practice of

dressing them for market. Time cannot be given to the broiler business as a business where the whole force is turned towards a more prolific lot of laying hens. Almost 6,000 pullets were selected at first. These were carefully culled until 5,000 were selected, 1,000 of which were hatched in January, another thousand in each of the months of February, March, April, and May. The 2,000 pullets that were hatched in February and March laid 624 eggs on August 30. The selecting of the pullets as above stated assures a continuous flow of eggs during the entire year. This is better illustrated by the fact that 4,100 laying hens in moult laid 868 eggs on August 30,

winter months. During the past two winters there have not been more than twenty-three days during the entire winter that the hens were kept within the house during the day. The soil is white sand, through which all impurities quickly percolate after a fall of rain. The land may eventually become tainted, but it will take years for this to occur. Frequent stirring with a sharp tooth harrow or a cultivating plough loosens up the soil, and the first wind or rain levels it as beautifully as before. It is an ideal spot for poultry, and notwithstanding the fact that all the green food must be fed them, the hens do remarkably well in this



A SUN-BATH OUTSIDE THE LAYING-HOUSE.

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which is better than a 20 per cent. egg yield from these.

Each laying-house is located in the centre of a three-acre lot. The houses are located so that the sun will shine brightly upon the front of the house and the ground directly in front of it. This furnishes a dry, warm spot at all times for the hens to roam over at will, and by shading their quarters at the rear of the building they are beneath the shade of scrub oak and pine. The temperature in Southern New Jersey, where the farm is located, ranges from a warm temperature in summer to almost zero occasionally in the

locality. The houses are 14ft. wide and 100ft. long. The roost-poles run through the entire length of the rear portion of the building. There are no divisions whatever in the building; all the hens and the male birds with them roost and live in the one house, and one of the most remarkable features of all is the fact that there is seldom, if ever, a quarrel among the male birds, and the Leghorns are quite as domestic as the general run of Wyandottes. The constant going among them to feed and care for them in large flocks, and the visiting of the houses at night, and the feeding of them five times a day, seem to accustom

them to the presence of persons, and they scarcely fly from the nest when the eggs are being gathered.

The average production of the entire farm for the past year ending July 31 was $134\frac{1}{2}$ eggs per hen. Five hundred carefully-selected hens in their second year in one flock laid an average of $138\frac{1}{2}$ eggs each. The only house that did as well as this was a pen of selected pullets hatched the March before. These laid an average of 141 eggs each, which is admitted to be a remarkable record for so many in a flock. There will be sixteen flocks of 500 each, housed and in full action by the end of September. A speciality is made of hatching chicks for other people; 20,000 young chicks were hatched and delivered during the past season to a number of customers who have grown these chicks to replenish their own flocks of pullets, and who prefer to have them hatched rather than to experience the difficulties of hatching them at home. On the first day of August an order was received to begin hatching 50,000 eggs for a large poultry farm located about forty miles from Brown's Mills. The first lot of 12,000 eggs averaged 563 live chicks from each 1,000 eggs; up to the first of September 11,000 chicks have been hatched and delivered to the brooding-house. The production of the farm is so large that 1,000 eggs for hatching can be selected each day, all from hens in their second year. This lot of eggs was selected at the rate of 2,000 per day, taken from the entire product of the farm. The largest number of eggs gathered in any one day in the

past season was ten crates, or 3,600, which are shown in the photograph of "One Day's Shipment of Eggs from the Farm." There were less than 5,000 laying hens on the farm when these eggs were gathered.

The lowest price received for eggs sent to market from this farm during the past year was 32 cents. Eggs were selling for 34 cents per dozen the last week in August, and there has been an advance of 2 cents per dozen since that date. The highest price obtained for eggs during the past winter was 63 cents per dozen, and for several weeks during the winter months these choice selected eggs sold for 56 cents and 58 cents per dozen crate lots delivered in New York to the commission house. The average price for eggs sold from this farm during the past season was over 4 cents each. This included eggs sold for all purposes.

In addition to the selling of eggs to market and the stocking of other plants with young chicks, thousands of eggs are sold to those who grow broilers, and many are sold in crate and barrel lots for hatching. No attention whatever has been given to the fancy side of poultry-culture, yet the greatest care is given to the careful selection of beauty and character in Leghorn type. Many specimens have been carried from this farm by others who make a practice of exhibiting them.

Mr. J. M. Foster, who manages the farm, has shown his ability in the handling of large flocks of poultry. The one aim is to have the most vigorous and most healthy and the largest size



ONE DAY'S SHIPMENT OF EGGS.

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in Leghorns for the most economical production of eggs. The eggs average 2oz. or better throughout the year. The selection for hatching has created a strain that lays eggs remarkable for purity in whiteness of shell. No eggs are incubated on the farm other than those that have perfect form, smooth surface, and pure white shell, and they must average fully 2oz. each or they are not used for the purpose. Eggs from two-year-old hens only are used for hatching. By this method strength, size, and vigour has been improved. All the young chicks are grown upon the open range after they leave the brooder - house. They roam over the expanse of twenty acres in fields where there is a prolific growth of wild berries, roots, and bugs, and from there they can go beneath the shadow of the oaks and the pines where they can take shelter from sun, rain, and windy weather. No amount of pains is spared to have the most excellent quality and the largest number of eggs possible to be gathered from hens kept, as these are, yarded in large flocks. While they have the open range of three acres each flock is confined within the limit. From 20 to 24 male birds run with each flock of 500 hens

when eggs are being gathered for hatching. The expense of a farm that is run in this way is very large ; yet, notwithstanding this fact, there was a profit made during the past year of 1.43 dols. per hen, the entire income being considerable, and from this the entire expense of the farm is taken before the question of profit is considered. This is, we believe, the first successful attempt at keeping large flocks of laying hens in colonies where the entire flock roosts in an open building without divisions or partitions, all under one roof, and where the egg-yield has been so satisfactory. The egg record represents the eggs gathered and sold, including those hatched upon the farm. One - half of the window opening in the laying-houses is closed with muslin cloth. Above these are ventilators close to the roof. These can be opened when the weather is warm, to permit the free passage of the hot air out of the building. When the weather is cold they can be shut down. Not a single comb was frozen during the past two winters within these houses, notwithstanding the fact that several times the thermometer registered 2deg. below zero.

ON SOME CAUSES OF FAILURE IN THE SHOW-PEN.

By REV. T. W. STURGES, M.A.

Author of "The Poultry Manual."

TO win a prize in fair competition is the laudable ambition of every fancier. It sets the hall-mark of high quality upon his stock, and thus ministers to his interest and ambition, and, if he has stock to dispose of, is a great aid to his efforts in this direction.

If he shows time after time and yet continually fails to "get into the money" he is apt to get disheartened, to give up the Fancy in disgust. This is especially the case with the novice, the new-comer into the show arena. The veterans who have won their spurs take defeat more calmly. They know that they have their bad seasons as well as their good ones, and when they find this out they either retire for the season from the show arena, or show very warily where chances of success are greater, or purchase fresh combatants for the fray.

My object in writing this article is to give to the novice a few hints gained from experience, to enable him to understand the causes of his failure, and to direct his steps.

The first cause is *sheer ignorance of show*

requirements. We are all apt to have exaggerated notions of our own possessions, and the more so if we have hatched, reared, and trained our own birds. We choose the best we have in our flock, and happy is the breeder who has a few birds which stand out prominently as being far ahead of the rest. Then, because they are better than the rest of our own we are apt to imagine that they are better than those of other fanciers. The novice thinks "all his geese are swans" till he shows them, and then too often finds that even "all his swans are geese."

At every show the judge finds in some classes birds which he passes at a single glance. They are not show specimens at all. Birds are shown not more than 3lb. weight, when the show standard for the variety is 5lb. or more, and this happens not only at small local shows, but even at classic fixtures like the Dairy Show. Again, I have noticed Leghorns shown with black or white legs, when the general and well-known feature is the yellow shank, or Minorcas with yellow legs ! Apart from such manifest

absurdities, it often happens that cross-bred mongrels are shown in classes set apart for pure and recognised breeds.

More frequent cases are those of birds of various breeds shown with the most glaring "fatal defects," such as Minorcas or Leghorns with very pronounced white patches of growth upon their faces, or cocks with combs leaning over instead of being erect, or pullets with erect combs which should lean over, or Orpingtons with heavily-feathered shanks or coloured hackles, or birds with very marked deformities, such as wry tails, or roached backs and crooked spines, or crippled toes and feet. The slightest acquaintance with such a book as the "Poultry Club Standards," which gives a list both of "serious defects" and of "fatal defects" for which specimens should be disqualified or passed by the judge, would prevent the novice from sending such birds to any show. They are meant for the pot and not for the exhibition-pen.

Besides such glaring errors as I have mentioned there are minor points which are pointed out in the best books, which are very apt to escape notice, such as size, type, details of colour, &c., all of which have their definite values. Perhaps I should here add a word of caution. The "Standards" describe the *perfect* bird in all its parts—the ideal to aim at, which is rarely if ever attained—and judged strictly by the "Standard" all specimens fail more or less. Having seen, therefore, that his birds do not possess any very serious defect, the amateur may venture to show with some confidence.

Another way of avoiding future defeats is to make a point of visiting the show itself and comparing his exhibits with those of others. If he is well acquainted with the "Standard" before he goes, so much the better, otherwise he might do worse than take it with him and compare the exhibits with the "Standard." He will also find a readier way to expert acquaintance with the various points if he can get a reliable fancier to look over the birds with him. It is astonishing to find some fanciers blind for a long time, not only to points of colour, which are often difficult to appreciate, but to such manifest points as size and shape. "Love is blind," and we may be so much in love with our favourites as to be blind to their defects until pointed out. The book, the show, and the experienced friend are of the greatest value.

Another cause of failure is *neglect of due preparation for the show-pen*. It is not always the best bird that wins. "Condition," which is a synonym for vigorous health, has a great deal to do with it, and that rightly so. It is more attractive to look upon, and more readily catches the judge's eye. When competition is keen this is often the deciding point. Health gives

brilliance to the plumage, sprightliness to the carriage, brightness to the eye, and a general sense of fitness.

But a bird may be full of health and vigour, and yet be shown in an unfit state. The beauty of its colour may have been spoilt through undue exposure to the weather. This makes a black-plumaged fowl look brown, like a cheap black coat after a year's wear; or a buff-coloured bird, such as an Orpington, or Rock, or Leghorn, have a mottled appearance, instead of one even shade of buff. The rain has soaked the plumage, and then exposure to the sun has bleached the tips of the feathers. Such a one may be invaluable for the breeding-pen if it has good under-colour, size, and type, but it is worthless for the show-pen.

In the same way a white bird may have been tanned by the sun and a yellow cast have been imparted to his feathers, or a Barred Rock turned "brassy." All show birds are better in colour for a fair amount of shade. This is a point to be learned from a good book, which shows how to do it without overdoing it.

The most common failing with the novice is that of *showing his exhibits without attending to their toilet*. To show a bird with dirty legs or plumage, or with an unsponged comb and lobe, is to court failure. The same remark applies to birds suffering from any complaint, such as scaly leg, colds, roup, or unhealed wounds. To deal fully with all the methods necessary to prepare a bird would require a separate article, but one other matter must be stated—viz., that *the bird must be tamed to stand quietly in the show-pen*. The Mediterranean breeds, such as Leghorns, and all the lighter and more active varieties, are very wild when first penned. A show-pen of the usual size, about 2ft. square and 27in. high, should be in every fancier's yard, and for a week or more before the show the bird should be placed in it, and become accustomed to be handled or touched with the judge's stick. It is impossible to judge fairly of a bird that rushes from side to side of the pen or turns its head into a corner and crouches down to escape observation. A bird that greets the judge as if expecting a morsel of food, and that turns itself gently about when touched with the stick, has a much better chance of gaining a prize.

A knowledge of the judge is another valuable asset. By this I don't mean an intimacy with him, much less any approach to collusion, which may amount to fraud, but a knowledge of his likes and dislikes, or of his capacity for judging. The number of really first-rate judges of *any* variety are not numerous, and those who are capable of judging *all* varieties very few indeed. If you have really valuable birds, show them only under competent judges, most of whom are appointed by the specialist clubs, to which you

should belong. Many of the older judges have an ill-concealed dislike of the more modern breeds, which have sprung into popularity within recent years, and though they are obliged to give the prizes to some of the birds in the class, they rarely give any of the modern breeds a special prize for the best in the show or the best in the section. They prefer a poor specimen of an old breed to a really good one of the moderns.

Then, again, *judges have their fads*. One goes almost entirely for colour to the neglect of type or size, and another *vice-versâ*. One plumps for a light shade, another goes for a medium or a dark colour. One judge penalises one fault more strongly than another fault, and so on through the whole scale of blemishes, some of which are always to be found even in high-class specimens. This is a knowledge which only comes from the experience of showing and the intelligent notice of show reports. You will find that many of the successful breeders only show under certain judges. They don't care to risk their reputation by being beaten by inferior birds.

Novices should show at the smaller shows, and begin with those in their own locality. The first prize-money of 10s. or 12s. is not enough to

entice the big exhibitors, though, unfortunately, even these are not free from being swamped by the deck-sweeper, who brings down a whole team of valuable birds to scoop in all the first prizes, especially if it lies *en route* to a larger show.

Limit shows, where no bird can be entered of a greater value than £5, or shows confined to a given radius, are good ones for the novice, especially where they are near at home and he can personally attend.

The best way to succeed is to deserve success. Know the standard, be familiar with its details by reading, by attending shows, and by friendly consultation and criticism. Show your birds in the best health and condition, see that they are duly trained and their toilet well attended to. Learn, if you can, where it is best to show and the capacity and integrity of your judge. If you are beaten, try to learn the reason why, and be prepared to accept candid criticism and take it for what it is worth. Amend the faults of your exhibits either by breeding or by the purchase of better stock. Keep alive the fancier's fire of perennial hope and resolve to deserve to win, and then your failures will one day be turned to success.

THE REVANCHE OF THE BROODY HEN.

By EDWARD BROWN, F.L.S.

PROGRESSION always involves penalty. Every step forward has to be paid for. That which seems so simple, so easy in the distant view, reveals unknown, unthought of difficulties when actually attempted. It is not until our idealisations are put to the stern test of practice that we learn why success has not been realised before. Pioneers and inventors in every age have learnt that experience develops problems which must be solved ere achievement is attained, or failure inevitably follows. And, be it noted, frequently such problems are not met with at first. They appear when victory seems certain. That is especially the case when we are dealing with natural forces, which are none the less effective though their influence is slow in asserting itself. Artificial methods may be, nay, are, necessary under modern conditions, but it is foolish in the extreme to regard them as anything but second best. Mother Nature hides many things from us, which, infinitesimal though they may appear to be, are of supreme importance.

A GREAT PROBLEM.—I am led to these

observations from the fact that the whole question of hatching and rearing by non-natural methods is demanding serious consideration and scientific research. The problem is so vast, the issues so wide-reaching, the financial interests involved so great, that we are justified in inviting the attention of scientists of the highest grade, together with practical men of the widest experience, to devote themselves to the elucidation of this, perhaps the most momentous, difficulty which has ever presented itself to the poultry industry. My feeling, after watching very carefully the present-day tendencies both in Europe and America, is that this is the most important question in relation to poultry-breeding within my experience. The solution may be very simple, as is often the case, it may be already within our grasp, and we sincerely trust that will prove to be so, but it needs to be diligently sought for. In this direction I feel a personal responsibility, by no means small. Probably there has been no more zealous and constant advocate of artificial methods, independently of commercial interests.

It is thirty-three years since I worked my first incubator—a Boyle—and I have used machines of one kind or another almost constantly ever since. Without the successful and general use of incubators and brooders it would have been impossible for the poultry industry to have made the vast strides which have marked the last decade. In this way have been made possible developments which at one time were scarcely contemplated. One can scarcely realise the disastrous effect if, for any reason, these methods were to be abandoned. The invention of the Hearson incubator and the Westmeria brooder changed the whole aspect of affairs, making of practical value what was previously of doubtful application. Since that time I have advocated their use whenever and wherever opportunity presented itself. Now we have had nearly thirty years' experience, giving time for whatever effects might be produced to declare themselves. But throughout many of us have fully understood that the artificial system must ever be second best.

THE PRESENT POSITION.—At first incubators and brooders were used chiefly by those who hatched and reared but a few birds annually, and were desirous of securing early chickens for exhibition, or kept only non-sitters. But with the growth of poultry-keeping on industrial lines, with a view to the meeting of market requirements, in which, to make the business profitable, hundreds of chickens or ducklings must be hatched where units were required before, problems of a different nature have presented themselves. These aggregations on a limited space altered the whole condition of affairs. Ten years ago on the College Poultry Farm, Theale, we were face to face with one of these—namely, the mortality among incubator-hatched and brooder-raised chicks on a fairly large scale, amounting in one year to a loss of 45 per cent. Inquiries revealed that other breeders were in a like position. For nearly three years we battled with the difficulty, conducting a series of experiments costly and laborious. Frankly speaking, I had almost come to the conclusion that rearing artificially on a large scale was doomed to failure. It was not until we had arrived at the conclusion that the cause was want of exercise and consequent loss of natural vigour, and had adopted the dry-feeding system, that this huge loss was checked. The following year the mortality fell to 5 per cent. That was so much to the good, but not all. Something more seems to be wanting. It may be that the discovery of earth salts by Messrs. Devonshire and Ingle in South Africa, and by Mr. Charles A. Cyphers in America, will help, but it would appear that we have to go further back for discovery of the cause.

From reports received since I visited America three years ago the large mortality then apparent

has increased. Poultry-keepers, like other people, do not like to talk of their failures for fear these may be regarded as a reflection upon their skill, and, therefore, it is difficult to obtain actual figures. Statements have been made that in some cases the deaths in the first four weeks have reached 95 per cent., though it is to be hoped that these instances are exceptional. But when we find men of experience like Mr. T. F. McGrew saying at the Ontario Farmers' Institute, held last February at Guelph College :

During the past year I have seen thousands of eggs from yarded hens fail to produce a living chick; in one instance over seven thousand eggs produced less than one thousand chicks, and not more than half of these were living at four weeks of age. . . . To continue without consideration the hatching and rearing of poultry by artificial means is certain to destroy vitality, because it is so extremely artificial that the product is a hothouse plant that is not intended for propagation, but for sale,

it is evident that the question is serious in the extreme, demanding earnest inquiry and attention. Fortunately, conditions are not so bad in this country, though, as seen below, by no means satisfactory.

HENS v. INCUBATORS.—The results of our experiments at Theale for the last ten years have shown that in all cases the average percentage of chickens from eggs hatched under hens has been greater than from incubators, but the difference was not great, and was more than compensated by the many advantages met with in working machines. That there are reasons to be adduced is shown below. I attribute the success obtained largely to the fact that, as a rule, we have mainly depended upon hens for the hatching of breeding stock, keeping the incubators for producing table-chickens and layers, and that we have sought as far as possible to retain for breeding purposes chickens hatched from eggs laid by two and three-year-old birds. Other workers have arrived at a like result, both in this country and America. As an instance of the latter, readers may refer to a report by Professor Dryden, published in the *POULTRY RECORD* last November (Vol. I, pp. 120-123), in which it was shown that percentages were greater under hens than in incubators, of hatching, of weight in chickens when hatched, and of gain in weight, whilst death in shell and mortality were very much less. There are, however, other signs, such as comparative feathering, &c. The large amount of attention being given to what is known as White Diarrhoea in chickens in America is most valuable, and will help greatly. Poultry-breeders, however, not only want to know the nature and life history of the microbe which causes this fell disease, and how many forms it

assumes, but more especially what are the conditions favouring its propagation. That should be the *ultima thule* of the work being done. My own view, as expressed in the "Report on the Poultry Industry in America," is that it and other diseases arise from overcrowding and neglect of hygienic principles equally in respect to breeding stock, incubator cellars, brooder-houses, and chicken-runs.

CAUSATION—Many men, practical as well as scientific, are engaged at the present time in studying this problem. Both classes are urgently needed, and it is of sufficient importance to warrant their earnest efforts. Sufficient has been learnt to show that, given proper conditions, the fault does not lie so much in the brooders as what has gone before in the hatching period, and previously, provided that the chicks are made to obtain exercise by working for their living. We must go further back to find the cause. Of course, it is realised that anything which tends to reduce the vitality of the stock is bound to have disastrous influence upon the young birds. As Mr. McGrew suggests, what is called "yarding," that is, keeping in small runs—and I have no doubt such is the case when carried to an extreme—cannot but be harmful and contributory to the result seen. Further, my own view is that the American system of incubator cellars is thoroughly bad. For one or two machines a sweet, well-ventilated cellar is an excellent place, but where, as I saw in the States, deep cellars are filled with incubators to their utmost capacity, and have nothing but overhead ventilation, that prime essential to embryonic development — pure, well-oxygenised air — is absent. We want fresh air for hatching eggs as well as for hens, and must ultimately realise that there should be a cubic air space, with constantly renewed atmosphere, as much for one as for the other.

Suggestions innumerable have been and are being made for mitigation of the trouble and loss. Many are merely temporary palliatives, and, in my judgment, do not touch the problem. The use of what is called Zenoleum to wash out the egg-chambers may be serviceable to some extent. Employing butter milk in trays instead of water may do some good, owing to acidic action. The old theory, held firmly by Belgian peasants, that there is virtue in hen oil as seen in the fine film of oleaginous matter deposited upon the outer surface of egg-shells by hens during the time of sitting may be true. And, equally so, the suggestion of Mr. Victor Fortier that the arrangement in certain forms of incubators by which the chicks after hatching come forward to the light, and drop into a space provided below the egg-drawer, by which they are chilled and their vitality is reduced, has probably some measure of

justification, though actual proof has yet to be reached. All these, if there is anything in them, do not afford sufficient explanation. On the other hand, I cannot think that the proposal to add carbonic acid gas to the air in egg-chambers is reasonable and likely to produce better results. In fact, I anticipate further experiments will reveal that gas to be injurious instead of beneficial. We must go more deeply into causes than the above. Whilst it is undoubtedly the case that mortality in chickens is not as great in Europe as in America, it is by no means unknown on this side the Atlantic, and is sufficiently serious to demand careful investigation. This may be due to different methods adopted—namely, we do not keep such large numbers together, have not restricted the ground space for breeding stock to the same degree, have a greater appreciation of the danger of tainted soil, and have not adopted artificial hatching and rearing on the same scale. But heavy mortality is by no means unknown.

SEEKING A REMEDY.—My desire is not to discredit artificial systems, nor to unduly alarm those concerned in the poultry industry. As indicated above, the progress already made would have been impossible but for these. Abandonment of incubators and brooders would retard the future development to which I look forward. Serious indeed would be the result. I believe that, in spite of natural methods being best—and they probably always will be—for the production of breeding-stock, incubators and brooders are essential factors, and without them home-production must be greatly curtailed. Further, I am confident that a remedy will ultimately be found. But facts must be faced, otherwise they may prove our ruin. Moreover, we should be warned by the experience of others, for in this way we may avoid the pitfalls into which they have fallen. To those who have the opportunity I suggest that the tank versus hot-air question should receive careful investigation, and here makers of incubators can greatly assist by collating the experience of their customers, frankly facing the facts, whatever those facts may be. Meanwhile, I venture to suggest to incubator workers (1) that, as far as may be, stock birds should be bred from two- or three-year-old hens, and not from pullets; (2) that special attention be paid to ventilation of incubator houses, providing a constant current of air below; (3) that the atmospheric egg capacity of an incubator room shall be on the basis of 1½ or 2 cubic feet for every egg in process of hatching; (4) that cooling shall be extended rather than curtailed; and (5) that the eggs be turned twice, or, better still, three or four times, per diem. These suggestions are in addition to the directions generally recommended.

WHO'S WHO IN THE POULTRY WORLD.

MR. W. M. ELKINGTON.

MR. ELKINGTON, who is one of our associate-editors, is so well known as an authoritative writer on poultry topics that it is unnecessary to enlarge upon his capabilities in this direction. His work for the Fancy is also familiar to most people. For two years he was hon. manager of the Ladies' Poultry Show when it was held at the Botanic Gardens, Regent's Park. He led the movement in favour of forming specialist clubs for sub-varieties of the Wyandotte family, and has been honorary secretary of the Partridge Wyandotte Club for the past six years. He is vice-president of the Blue-laced Wyandotte Club, and on the committee of the United White, Black, Columbian, Silver-pencilled, and

Blue Wyandotte Clubs, as well as being club judge to seven of these bodies. His own fancy has been Wyandottes from the outset. Most of the leading shows throughout the country have been favoured by his services as judge.

After leaving school at Rugby, he went to the Colonies in search of health, and settled in North-West Canada, where for four years he farmed 160 acres. At different times he served in many capacities. His early experiences with poultry—it was in Canada that he was first attracted to the subject—were attended by many weird difficulties of climate and transport. Five years of roughing it, farming and travelling, sufficed to build up his constitution, and he returned to England to take a twenty-acre grass farm in Northamptonshire, in partnership with a friend. They made poultry the principal feature; at first devoting themselves to utility, and then, by gradual improvement of the stock, obtaining some success with exhibition birds. Four years later Mr. Elkington sold out his share in the concern, and devoted himself more definitely to exhibition stock, at the same time beginning to write for the Press on the topics with which his name is mostly connected. We should mention, however, that his literary bent has occasionally found an outlet in other subjects, notably stories of adventure.



MR. W. M. ELKINGTON.

MR. F. TOOTILL.

MR. F. TOOTILL, the senior proprietor of the Quarry Farm, Pool, Leeds, is one of those in whom the instinct for poultry-breeding is hereditary. He comes of a race of fanciers. Born in 1875 on a small dairy-farm at Ainsworth, in Lancashire, he began life with an interest in Minorcas and Leghorns, and, in partnership with his father and brother, soon tasted the fruits of success as an exhibitor of these and other breeds. One of the earliest triumphs achieved by this partnership was with Polands at the Liverpool Show, where the firm had the honour of defeating Mr. J. Partington, who was at that time considered as holding an impregnable position as a breeder of those birds.

At the age of nineteen Mr. Tootill entered the field of journalism, and served (1) on the reporting staff of the *Feathered World* and (2) as acting editor of the *Fanciers' Gazette*. After two years on the latter paper, however, considerations of health compelled him to seek

the country and the open air, and he became manager of Mrs. Webster's famous stud of Leghorns and Minorcas at Horsforth. The Quarry Farm yards were established in 1903, Mr. Tootill going into partnership with Mr. Frank Whitaker. The last-named retired in the following year, and for two subsequent years Mr. Tootill car-



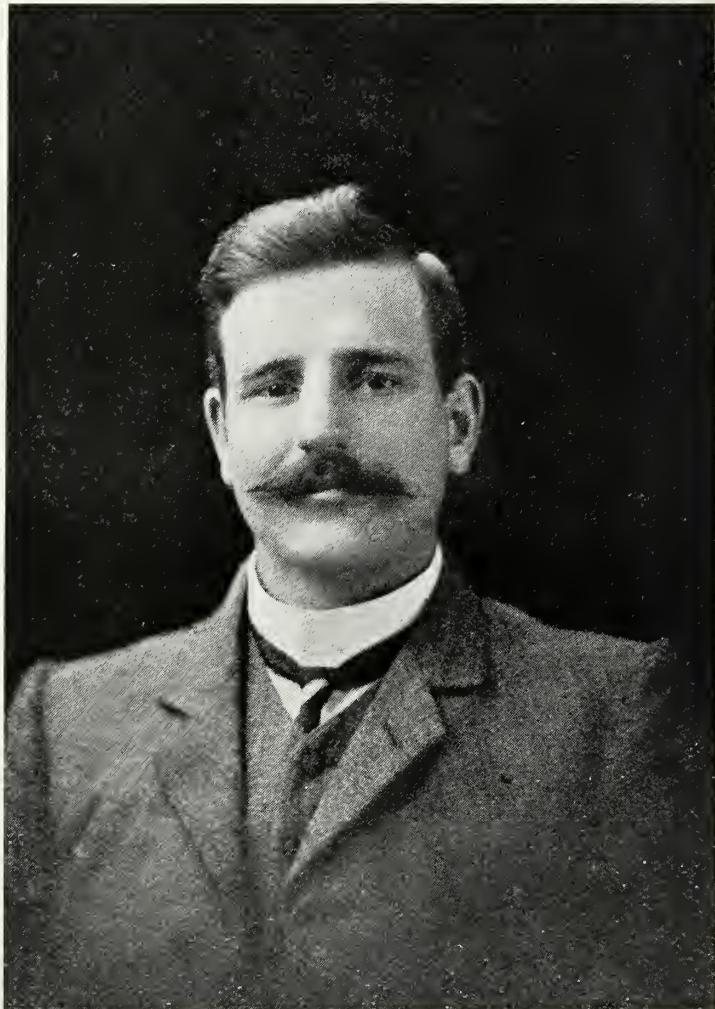
MR. F. TOOTILL.

ried on the business by himself. Then, in 1907, he was joined by Mr. W. F. Longbottom.

Mr. Tootill has retained his first affection for Leghorns and Minorcas, and has also been successful with White Orpingtons. The yard has accounted for over 50 challenge cups, 30 gold medals, and 2,500 other awards during the five seasons it has been in existence. The prizes include the 50-guinea Trophy and British Minorca Club Championship Prize at Club Shows in 1905, 1906, 1907, 1908; both Leghorn Clubs' White Leghorn Challenge Cups (outright); and the Poultry Club Champion Medal, White Orpington Club Show, 1906, 1907, and 1908. Mr. Tootill has also written a book on "The Modern Minorca Fowl," just published.

MR. J. B. MERRETT.

IN new countries reputations are rapidly made, and prominence secured in a comparatively short period of time. Hence we are accustomed to find men holding a leading place, who but a few years before had never been heard of. Such is the case with Mr. J. B. Merrett, who by establishing the *New Zealand Poultry Journal* in 1906, and by the excellent way in which that publication has been maintained, now holds a leading place among the poultry men of Australasia. He is of a studious turn of mind, yet essentially practical, and his knowledge has been applied to the practical issues of poultry culture. His articles are progressive, suggestive, and well written. Further, he has founded the New Zealand Poultry Journal Institute, where instruction is given and experiments conducted specially suited to the conditions found in that Colony. Special attention is given to incubation, feeding, and breeding. Mr. Merrett devotes a large amount of time to lecturing on poultry subjects, and is generally rewarded by large and attentive audiences. As an earnest promoter of the poultry industry, and a firm believer in its possibilities, he ought to accomplish much in the Colony, having the advantage of life in front rather than in the rear.



MR. J. B. MERRETT.



Exit the Ring!

One of the items on the agenda for the annual general meeting of the Poultry Club, which was held at the Dairy Show on the 6th ult., was : "The Rev. T. W. Sturges, hon. secretary of the Ring Sub-Committee, will give a brief report on the Marking Ring question, and ask the opinion of the general meeting as to the desirability of using them (the Poultry Club rings) for 1910." The report dealt chiefly with the quantity of rings that had been disposed of for the current year ; the numbers ran well into four figures, and apparently the ring has been much in vogue, although comparatively few birds have been so rung at the shows so far held this season. The discussion on the use of the ring for 1910 which followed was not very lengthy, but it was to the point, and by a representative majority it was decided that the ring be abolished. The fact that the matter had been carried on practically as an experiment was fully emphasised ; but there can be little doubt that the ring has fallen short of expectations, and I, for one, am not surprised that the Poultry Club has decided against it. I never had much faith in rings of any kind.

A Brief Review.

It will probably be recollected by those who are interested in the question that to endeavour to put a check on the exhibiting of over-age birds in chicken classes the Poultry Club Council appointed a committee to go fully into the matter from a practical standpoint. In due course the report appeared, and, at the recommendation of that special committee, the Council at its meeting of July, 1908, decided to abolish rings and remove any fixed date for hatching. The rings here referred to are endless and enamelled, and are issued by the Marking Conference. These Conference rings, which were invented by Mr. Henry Allsop, of Birmingham, have long been recognised in poultry circles and are adopted by at least two specialist clubs—namely, the Indian Game Club and the Waterfowl Club. But, excellent as they undoubtedly are, events proved that they could be faked.

The Bone Test.

As a result the supreme test of chickenhood was to be by the general handling of the bird, the softness of its bones, and the pliability of its pelvis bones. For want of a better term this test was referred to as the "bone" test ; and, as might have been expected, it did not meet with the approval of all. It was not, and never will be, infallible, but since it is a method followed by poultry dealers, who are not fanciers, to distinguish between a young and an old bird, it was considered to be a good enough guide. Not one member of the special committee, nor, for the matter of that, anyone with a grain of common sense, imagined that such a test would be a guarantee that a chicken was hatched on or after January 1. But since one of the recommendations of the committee was to remove any fixed date for hatching, I still contend that the bone test is a good one.

What is a Chicken?

When is a cockerel a cock and a pullet a hen ? It has always been a debatable point, and I doubt if the question will ever be answered in a manner likely to be of service to the poultry Fancy. In some quarters a cock is a male bird which is old enough to be used in the breeding-pen, and a pullet becomes a hen with the laying of her first egg. As can be readily imagined, these limits are somewhat elastic, since the age at which a male bird arrives at maturity differs, not only with breeds, but even with individual specimens of the same hatch, while similar conditions apply to the laying of pullets ; and, in addition, the laying of the first egg can be materially hastened or delayed by feeding and management. It was readily admitted, even by the most ardent supporter of the movement, that the new rule of the Poultry Club anent the cartilage test did not give the Fancy anything definite as regards age. Nevertheless, the handling test is a natural one, and since it was not the intention of the Poultry Club, when the bone test was adopted, to demand or enforce any system of artificial marking to guarantee the age of exhibition or other birds, it was practically the only test that could be used.

The Use of Rings.

There was a strong feeling in the Fancy, however, that a ring was the correct thing to prove that the bird wearing it had been hatched in the year indicated on that ring, or, at any rate, near enough to January 1 to ensure the fowl being a genuine chicken. As I have said, I never had a great deal of faith in rings of any kind as an indication of age, since I have had good proof that they can be faked—or, rather, that they can be placed on the shanks of birds at a more advanced age than is thought possible in some quarters. If a ring were compulsory there cannot be one to equal that which is adopted by the Marking Conference, since it is not possible to "monkey" with the enamel without leaving some trace of the fraud behind, and a trace which can be readily detected, of which the Fancy has had proof. But the weak part about the use of that type of ring (which differs in size according to the breed, variety, or sex), from an exhibition point of view, is that probably not one fancier in a hundred knows the correct colours for the different breeds unless he carries the list with him, which is hardly likely. Moreover, it was stated that the price of the Conference rings was against their use in many quarters; and those who pinned their faith on a ring wanted a cheap one.

The Poultry Club Ring.

The cheap edition was obtained in the one issued by the authority of the Poultry Club. It was an endless one of aluminium, and with a bevelled edge, not enamelled, and bearing the initials of the club, a number, and the year. Had it been beaded, as many of the members imagined it was to have been, it would doubtless have been an improvement; but the fact that it was not enamelled was, in my opinion, right against it. As it was, there were two things which made it weaker than the Conference ring. The numbering was as muddling as the colouring of the older type, perhaps more so. But, although it could not be cut and seamed again, it could be stretched or bent; and as the Poultry Club did not retain the sole right to issue this special pattern of ring, those who liked to be unscrupulous would not have much trouble in getting a copy of it whenever they pleased. Even if the maker of the new ring had issued it solely to the Poultry Club, it was such an easy one to copy that faking it would have been "child's play." In fact, as I mentioned in these columns some months since, I undertook to ring a cockerel hatched early in the year with a ring which would be an exact copy (plain aluminium with a bevelled edge) of that issued by the Poultry Club on March 31, 1910, or, if the bird still lived, with a ring bearing the year 1920 and any other marks that might be on the ring issued in that year. It was pointed out to me that the numbers were stamped on the ring. I was aware of the fact, but such marks are not difficult to copy.

The Result.

After giving the Poultry Club rings a good trial, however, the Fancy has decided against them; and since

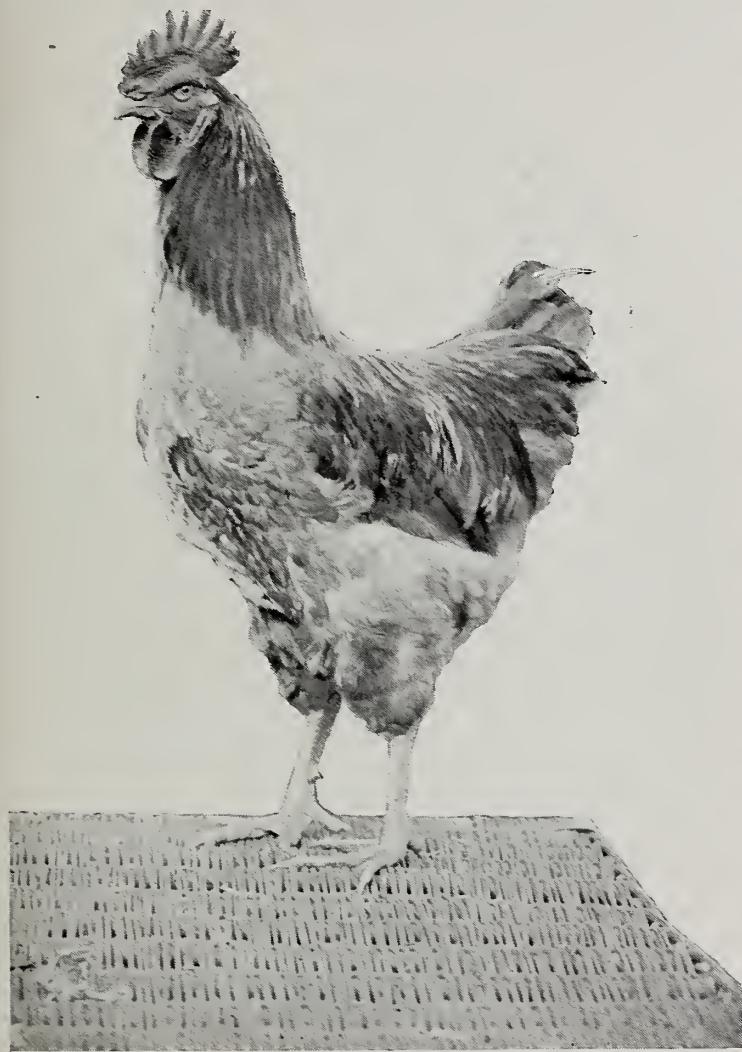
the Conference rings are presumably not to be banned, the chicken question stands on the same footing as it did before the Poultry Club took it up. We are back to the old date of hatching—viz., January 1—and until the Fancy sees the force of entirely abolishing chicken classes from the shows (it is practically useless to attempt to find any other reliable test), judges will ever be confronted with the very mature birds at the early shows. It is well known that in two cases at least this year birds wearing the 1909 Poultry Club rings have been passed for over-age by judges who are in every way competent to deal with such matters. Why those exhibits were not disqualified is another question, although it would have been much more satisfactory had they been so marked and the cases thoroughly investigated. Personally I think it is high time that chicken classes were entirely abolished, and that competition in future be open to birds of any age. It may be objected that cockerels and pullets can never hold their own in the show-pen when competing with adults. But that has not been my experience; and provided they are not mere raw chickens they will stand an equal chance. Moreover, there are times of the year when old birds are not fit for competition, and during those periods the young stock would have ample opportunity of proving its worth. Rings will never be satisfactory, simply because stoutness of bone is a great point in most breeds; and if the rings were made to fit the stoutest-boned specimens, there would be a decided advantage for fine-boned birds of the same varieties. It will be a move in the right direction to do away with chicken classes, and I feel sure that it will lead to increased entries at the earliest shows, and certainly at those which fall in the between seasons.

THE DAIRY SHOW.

THE thirty-fourth annual show of the British Dairy Farmers' Association (the ever-popular "Dairy") took place at Islington on October 5, 6, 7, and 8, but from the poultry fancier's point of view the event was not one of the best of those which have been held in the galleries of the Agricultural Hall. It suffered chiefly in point of numbers, but it was a disappointment to find some classes cancelled. The total number of entries in the poultry section, including those in the table poultry and appliance classes, was, according to the catalogue, 3,034; last year it was 3,330. The difference may not appear great when distributed over 231 classes (almost a score were cancelled), but it was sufficient to be noticeable, particularly as the decrease was in some of the popular breeds. However, the quality generally was very good.

As usual, the live poultry section opened with classes for breeding-pens, a male and three females, and the strongest was that for Plymouth Rocks, Wyandottes, or Orpingtons. A quartette of Buff Cochins secured first prize in the class for feather-legged poultry, and although the birds were perfect from an exhibition

standpoint, the hens were rather too old for stock birds. In the second class, the largest, the first prize went to a pen of Partridge Wyandottes, typical cockerel breeders, and a better mating it would be difficult to find. Pullet-breeding Brown-Red Modern Game won the chief prize in the any other variety of clean-legged poultry, and this pen also secured the silver medal for the best in the three classes. It was in every way an excellently matched quartette. Its owner has won the first prize in the class for breeding-pens for five successive years.



[Copyright.

MRS. J. WILKINSON'S BUFF ROCK COCKEREL.
1st and Special Dairy Show, 1909.

The four classes of Dorkings were well filled, and there was keen competition for the medal, which was awarded to the winning dark cockerel. Black Langshans came out fairly well, but there have been better classes at the Dairy. The winning pullet secured the gold medal of the Association for the best pen of poultry in the show and the champion cup for the best feather-legged fowl. The Blue Langshans were poor, and the eight birds were from three yards; Whites were cancelled. Croad Langshans were decidedly good, not so numerous, perhaps, as they have been, but certainly the best collection we have seen for some time, the winners in each class being in every way typical specimens. The

class for Dark Brahma cockerels was cancelled, but otherwise the entry was satisfactory, and the special winning Light pullet will be a grand specimen when she has passed her chicken colouring. Cochins, the grand old breed, were a great disappointment—not a Buff, nor a Black, nor a White! Four of the six classes were cancelled, and there were only twelve entries in the remaining two, which were for Partridge. Here, indeed, was evidence of an erratic season.

The entries of Minorcas were better than at last year's show, especially in pullets, while the quality was well maintained. One of the oldest fanciers of the breed, who has not done a great deal of exhibiting these past few years, staged a remarkably fine team. Houdans suffered slightly in entries, but quality was as good as ever, and both of the birds which won at "the preliminary canter" (Hayward's Heath Show) came out on top at the Dairy. There was a better entry of Faverolles, and they were a fine lot, there being a decided improvement in colour and marking. Malines made their first appearance at Islington with separate classification, but there is room for much improvement ere the breed will become popular among general fanciers in this country. Campines were quite up to the usual, but there was not a "flyer" among them. Hamburgs were somewhat disappointing, both in quantity and quality; and here again the bad season has told its tale.

Modern Game were not so numerous as one would like to see them; and despite the fact that a well-known specialist adjudicated, three of the eight classes were cancelled. The Old English Game, too, were not an especially good collection on the whole; many of the birds were really too coarse to merit their title, and we cannot help thinking that too much is being made of size and stoutness of bone. The winning spangled pullet, however, which secured the medal for the best of her breed also won the champion cup for the best clean-legged fowl in the show. There was a decent entry of Black Sumatra Game, but many were not sufficiently advanced to exhibit the beetle-green sheen so necessary to make a good specimen. Malays came up well, and for the time of the year were in capital condition; the cup-winning cockerel was as good a bird as has been exhibited for some time. The Indian Game, too, were in every way satisfactory, the cockerels being big and stout-boned and the pullets exhibiting clean and distinct lacing. The cockerel which won the special for the best bird in the show at Hayward's Heath secured the silver medal over the pullets.

There was only a moderate entry of Andalusians, and although there was nothing much to complain of as regards the quality, we have seen better displays. No doubt some splendid specimens were staged, but most of the birds were not ready, and this state can only be put down to the backward season. Although classes for Buff and Duckwing cockerels and Pile pullets were cancelled, there was a representative entry of Leghorns. The Duckwing pullet which secured the specials at Tunbridge Wells, Hayward's Heath, and other events this season carried off the medal for the best Leghorn

but we rather fancied either the first prize White pullet or the winning Brown pullet, or even the fourth prize Brown cockerel, for that special. The Browns were numerically strong, but many of the cockerels lack the much-desired striping in the hackles ; we should like to see it more pronounced. The pullets of this variety are unquestionably making headway again.

The Plymouth Rocks were better than ever, and what that means can be imagined when one considers that the breed always figures well at the Dairy. The marking of the Barred variety was particularly fine and sharp, more especially in the cockerels. The Buffs, too, were good, but it was a surprise to many that the second prize pullet did not head her class. She has won all along the line this season under six or seven different specialist judges, and she was penned at the event in the best possible form. However, "such is the fortune of war," although she was in our opinion the winner. Whites were forward in good numbers, and lacked nothing in quality ; but Blacks were poor, the cockerel class being cancelled and only seven pullets being entered.

Wyandottes could not have been better, and the total entry was in excess of that at last year's show. Silvers were well up to the mark, and we have never seen a better specimen of his kind than the winning cockerel. The same may be said of the first prize Gold cockerel, to which was awarded the silver medal for the best Wyandotte ; and both birds stood out. There was nothing of extraordinary merit in Silver pullets, which remark applies equally to the Gold pullets. The Whites were a remarkably fine lot. Blacks were strong, but not particularly good, and in the Partridges there was nothing of outstanding merit. The other varieties, bar the Columbian cockerels, were only fair, and Blues have much to do ere they can merit their full title.

In Orpingtons the Black pullets were a splendid collection, and the Hayward's Heath winner stood well at the head of her class. Whites were hardly so strong as at the 1908 event, but they were of excellent quality, and the first prize pullet will take some stopping. The Buffs showed a big falling-off compared with the entries of the past two or three seasons, but competition was as keen as ever. The sensational Hayward's Heath pullet was not on view, being down with a cold, which she evidently caught through getting wet just prior to the former event. Jubilees and Spangled were not up to the usual, size being their chief failing, and particularly in cockerels. There was an excellent display of Sussex, and the Lights were forward in good numbers.

Anconas were well up to the mark, and the Rose-combed were better than we have seen for some time. Silkies and Yokohamas again attracted much attention, and in the any other varieties there was a decidedly better entry than there has been in those classes for some years. A Redcap won in the cockerel class and a Spanish in the pullet class, and among the other varieties represented were Scotch Greys, La Flècne, Polish, Rose-combed Leghorns in Black, Blue and White, Red and Pile Wyandottes, a Black Frizzle, a

Rose-combed Barred Plymouth Rock, and a Cuckoo or Barred Orpington—truly a mixed collection. Game Bantams were forward in good numbers, and a Black-red cockerel, which won at the Royal Lancashire and every show at which he was exhibited this season, secured the medal for the best of his breed. A similar award in the Old English Game Bantams, which, as usual, were a feature of the event, went to a Black-red cock, undoubtedly the best out this season ; while in Malay Bantams, truly characteristic, though hardly small enough yet, a Red pullet was awarded the special offered by the Malay Bantam Club. Rose-combs were numerically weak. Pekins and



A TYPICAL WYANDOTTE HEAD. [Copyright.]

Sebrights were much better, and there was a fair entry of Japanese and Scotch Greys.

The Watersfowl and Turkey section was a strong one. The silver medal for the best duck or drake went to a Rouen drake, but the champion cup was awarded to a two-year-old Embden gander. There was a moderate display of Rouens, but both Aylesburys and Pekins were well to the front. Cayugas and Indian Runners also were very promising. Buff Orpingtons are advancing steadily, but are far from perfect ; however, there were some fresh names of exhibitors in the list, so it augurs well for their future. We have never seen during recent years a better collection of Geese than that which was shown at Islington last month, while the Turkeys compared most favourably with the displays of the past few years.

MEN AND MATTERS.

By W. W. BROOMHEAD.

A Scottish Wyandotte Yard—Mrs. Prideaux's Yokohamas—Mr. Bartlett's Orpingtons—More Elections—The Combined Club Show—The Greatest Club "Meet"—Should Judges be Liccused?—Some Recent Shows.

A SCOTTISH WYANDOTTE YARD.

One of the best-known fanciers in Scotland, certainly among Wyandotte men, is Mr. Fred Argo, of Inverurie, who has just been returned at the head of the committee at the recent election of the Scottish Wyandotte Club. Happening on a close acquaintance of the Northern "Wyandotte King" the other day, I asked how the birds were doing, and I was pleased to hear that although the chickens are not quite so forward as they usually are at this time of the year, there are many choice youngsters among them, and, taken all round, the season has not been by any means a bad one. Silvers and Golds have ever been specialties at these far North yards, and since the present lot are reported as being particularly fine, and there are many from which to make a choice, Mr. Argo's reputation as a Wyandotte exhibitor should be well maintained during the present show period. A number of extra fine Blacks and some quite decent Blues have also been reared this year, and in addition there are several excellent young Barred Plymouth Rocks in the Inverurie establishment which are coming along in a very satisfactory manner.

MRS. PRIDEAUX'S YOKOHAMAS.

During my stay at Hayward's Heath in show time I had the pleasure of inspecting the Yokohama fowls which Mrs. L. C. Prideaux keeps at Lindfield. The stock is a numerous one, and among the varieties which are reared are Blue, Duckwing, Pile, and Spangled, while there is a pen or two of Yokohama Bantams. They are exceedingly pretty fowls, and, despite the great length to which the tails of the male birds grow, they do not need coddling and are extremely hardy. In fact, I admit that I was surprised at the manner in which Mrs. Prideaux rears her birds, seeing the excellence of her exhibits at the shows. The Yokohamas have to rough it, but they are unquestionably the better for such treatment. The Bantams are coming ahead very well, and they will doubtless ere long be favourites with those fanciers who keep the miniatures.

MR. GEORGE BARTLETT'S ORPINGTONS.

There can be no doubt that during the past two or three years Black Orpingtons have been "looking up," and I feel sure that it has been due to the excellent manner in which some of the best breeders and exhibitors have given the novice a chance at the second-class shows. One of the youngest members of the Fancy to come out on top with the variety is Mr. George Bartlett, who lives at The Northlands, Horsham, Sussex. Last year he showed that he could breed them, and with a cockerel won a strong novice class at the Palace Show. This season he exhibited two charming pullets

at Hayward's Heath in a class of twenty; and in addition to winning first and second prizes the better bird secured the challenge cup for the best Black Orpington and the Poultry Club Sussex Cup for the best bird shown by a member residing in the county. This pullet, which was purchased at Hayward's Heath Show for £50, was exhibited at the Dairy Show, and won first prize in a class of thirty-five. And it is not the sole representative of Mr. Bartlett's flock, since he assures me that he has others equally good that just require a week or so in which to furnish.

MORE ELECTIONS.

The Poultry Club election appears to have caused quite a little excitement in Fancy circles this year. Two names were put up for the secretaryship and three as president, besides several as vice-presidents. If the election is valid (there appears to be some question about the voting forms not being returned according to rule), Mr. H. Wallis is returned as president, Mr. G. T. Drake as honorary secretary and treasurer, and Messrs. W. H. Cook, A. C. Gilbert, G. Fielder, and William Rice (of Rose-comb Rock fame) as vice-presidents. In connection with the White Leghorn Club Mr. J. Cheetham has been elected president, and judge at the Club Show, and Mr. D. Montagu-Turnor as hon. secretary and treasurer. The Rev. T. W. Sturges received top votes for the presidency of the Black Leghorn Club, and Mr. Sam Metcalfe for hon. secretary. Mr. John Lane was returned as president of the Scottish Wyandotte Club, and Mr. William Morgan as secretary, while at the recent Partridge Wyandotte Club election both Mr. F. W. Myhill (president) and Mr. W. M. Elkington (secretary) were returned opposed.

THE COMBINED CLUB SHOW.

Those who have the combined specialist club show in hand are pushing matters forward in earnest now that the exhibition season is in full swing. A meeting of delegates was held at the Dairy Show on the third day, and representatives of about twenty specialist poultry clubs attended and stated their cases. It was unanimously resolved that an effort be made to hold a combined show in 1910, and that a committee be appointed to formulate a scheme on which the event should be worked. This committee met at Manchester Show in order that the scheme might be submitted to the various specialist clubs for their consideration; and another gathering of delegates has been arranged to take place at the Crystal Palace this month. Apparently the most influential clubs in the Fancy are in favour of such a show, and I did hear that there is a likelihood of it taking place immediately after the 1910 Birmingham fixture, or even during that week. It will have to be fairly late in the season, so as to allow of the adult birds being thoroughly through their moult; but if it is too late, I fear that there will not be a record entry, since by December many of the best birds are in the breeding-pens. However, we shall see.

THE GREATEST CLUB "MEET."

The greatest club "meet" of the season will take place this month, at the greatest fanciers' show in the world, and no fewer than twenty-three specialist poultry clubs will hold their annual shows in conjunction with the International, at the Crystal Palace, from the 16th to the 18th inst. The Clubs represented will be as follows : The Dorking, Brahma, Blue Langshan, Black Orpington, Buff Orpington, Variety Orpington (White, Jubilee, and Spangled), United Wyandotte, Buff Plymouth Rock, Leghorn, Sussex, Houdan, Andalusian, United Ancona, Indian Game, Black Sumatra Game, Silkie, Sebright, Indian Game Bantam, Brahma Bantam, Hamburgh Bantam, Rose-comb Bantam, Orpington Duck, and Waterfowl. Since the season has been a backward one this year, and many birds were not furnished sufficiently to be exhibited at the Dairy, there should be an especially good entry at the Palace, and it will not surprise me if "fresh faces" get into the prize lists.

SHOULD JUDGES BE LICENSED?

I was very pleased to read Mr. W. M. Elkington's

will get one ; but I do not think that it will make any difference to the existing state of affairs. What is needed more than a licence is a judges' combination to keep up the fees ! But that is another matter. The licences, of course, will not touch that question ; and under the new *régime* (if it ever becomes law according to the Poultry Club) judges will still be able to act for the honour and the glory only, should they feel disposed to do so.

SOME RECENT SHOWS.

Recent shows appear to have been dwarfed by the Dairy ; but since last month's notes there have been two or three important events. At Hayward's Heath the entry was not up to the usual, but had some exhibitors not delayed, the total would not have been anything like so bad ; several late entries were returned. The event provided the sensation of the season, a brace of Buff Orpington pullets being claimed at catalogue prices, £50 and £25 respectively, and a Black pullet for £50. The Orpington still keeps in the front rank. Altringham was also an important fixture, undoubtedly the largest one-day show in the universe, and many of the best



AT A YOKOHAMA FANCER'S YARD.

[Copyright.]

opinions on the above subject which appeared in last month's ILLUSTRATED POULTRY RECORD. The writer put both sides of the question in a very fair light. He probably knows by now that the licensing will be on what Mr. Elkington terms the "narrow" basis—judges will be licensed according to their character, and not on their capabilities. I really cannot see how the latter could be carried out, although I think I am correct in saying that it has been done recently in America. But "over there" the score-card system is still in vogue. The Poultry Club Council has elected a sub-committee to look into the licensing question, and it will be interesting to see on what lines it will work. Of course, any "Tom, Dick, and Harry" who likes to come forward for a licence, and can show a clean card,

birds in the poultry Fancy put in an appearance. There was also a splendid poultry show at Galgate, and the entry at it was one of the best of the season. Orpingtons, Plymouth Rocks, Wyandottes, and Leghorns were the feature, but apparently the classes for Columbian Plymouth Rocks were cancelled. I wonder if Rock fanciers will welcome a single-combed Columbian Wyandotte when they appear to class the Rose-combed Rock as—well, not a Plymouth Rock ? There were some well-filled classes at Caterham, which is one of the most important of the Southern events ; but of the later shows, such as Exeter, Eastbourne, Bridgend, Liskeard, Kendal (Game), Motherwell, Manchester, Bristol, Tre-harris, Lewes, and more than a score of others, I have not any notes for this issue.

SHOULD JUDGES BE LICENSED?

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—As one who was on the Poultry Club Committee some years ago, when this question was first mooted, and at that time well and seriously considered, may I be allowed space to say a few words on the subject? At that time Mr. Harry Hesford, of Leghorn fame, was an active member of the committee, and he it was who, I believe, first introduced the question of judges' licences—just how long ago I am not sure, but somewhere in the "late nineties," I believe. Anyhow, it had a fair hearing, and was eventually thrown out as not practicable. More than this it is not necessary to say about what was done at that time. Things have greatly changed in the poultry world since then. The Poultry Club has become much stronger, and consequently able to do many things that, in its weaker days, were not equally possible, and it may be that the present council's deliberations may evolve some satisfactory scheme; but the question is one fraught with many difficulties, and, unless very carefully handled, is one that may very possibly create much ill-feeling and do a great deal more harm than good. On the other hand, I think it will be generally agreed that there is much room for improvement in the existing system, and I feel sure we may depend on the present council to look the matter fairly in the face, and, whilst acting with due caution and deliberation, finally come to a satisfactory conclusion as to whether any such scheme is possible or not, and if the former, to take steps to put it in force.

I heard several discussions and various views expressed by different fanciers at the Dairy Show on this subject, and at the present time it appears to me that the chief questions which almost everyone is asking are: (1) On what grounds shall licences be granted? (2) By whom? And (3) would they be confined to what are known as all-round judges, or would there also be specialist licences? To begin at the end, I think the licensing of specialist judges may be very well left to the specialist clubs. The election of club judges as at present carried out in most clubs practically amounts to a licence from that club by the very fact of the party in question being elected a club judge. Turning to the "all-rounders," I agree with much that Mr. Elkington says in the October number, but I differ on some points. He says: "A man with a bad record has a very poor chance of getting engagements as it is." Now, I contend differently. Such a man does stand a very even chance of securing engagements over the heads of infinitely better men. How? By advertising himself and accepting low fees. The system of allowing judges to advertise themselves is one of which I have never approved, and to support my views I will cite what I believe to be a very common case. A new society is formed; it is decided to hold a show; the names of several judges are selected from a list of advertisers, and the secretary is instructed to write for

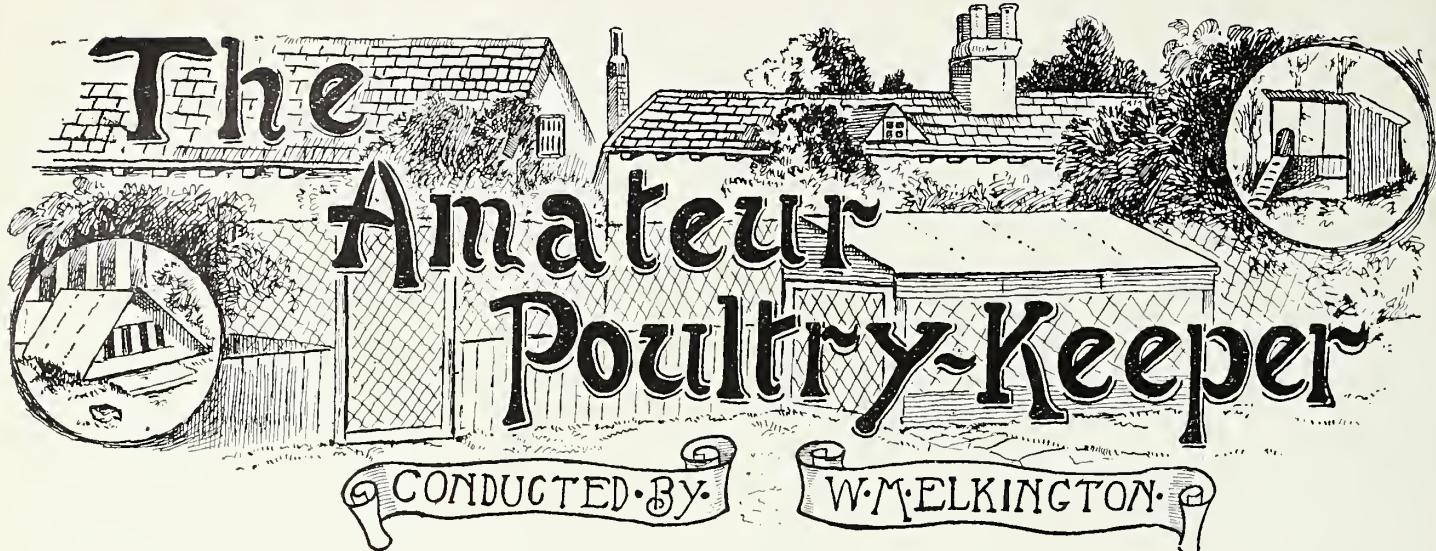
their terms. The newly-formed committee naturally think they are all reliable men from the fact that their names appear regularly in the list, and, being anxious about funds, accept the lowest quotation, having probably no knowledge either of the person or ability of any of them; and when we hear of judges who for reasons best known to themselves accept engagements for a less fee than it will cost them in railway fare, the question naturally arising in one's mind is, Where does it come in? Are these men philanthropists? I think the foregoing is quite sufficient to make one favourably disposed to licensing, provided it can be done satisfactorily. And here arises another question in my mind. Would licensing be accompanied by the fixing of a scale of fees? If so, I think the granting of licences on moral grounds alone, even if it were found impossible to do it on the question of talent, would be an advantage. This, however, might be done by the Poultry Club fixing a scale for all shows under their rules, without the granting of licences. I think, however, that even supposing the Poultry Club instituted a system of licences, it would be a too arbitrary proceeding to insist on shows held under Poultry Club rules being bound to engage only licensed judges; but a fixed scale of fees of a fairly reasonable and remunerative rate would tend to assist committees in sorting out ability.

To grant judges licences on ability is in my opinion practically impossible, and unless the Poultry Club Committee can produce convincing evidence to the contrary, may, I think, be dismissed as such. Mr. Elkington says it would be a very simple thing to license judges on what I term the moral basis—*i.e.*, grant them to all against whom there was no charge, and in case of such charge being preferred, cancel if he failed to satisfactorily answer it; but I am afraid such a plan would be fraught with great risks of unfair treatment and entail a vast amount of work on the licensing body in clearing up such charges either for or against the judge in question. There is far too great a tendency with the dissatisfied exhibitor to impute unjust charges against the judges' morals, and I am afraid there would be a large number of unprovable protests lodged against judges, who would thereby be put to an immense amount of unnecessary trouble and expnese in defending them.

The question of evolving any practical and workable scheme bristles with difficulties, far more so than it did when discussed years ago, because judges and shows are now so much more numerous than formerly; and, candidly, I very much doubt if it be possible. Still, we have the old proverb, "In a multitude of counsellors there is safety," and if the Poultry Club Committee can introduce a satisfactory system of judges' licences, combined with a suitable scale of fees, I for one shall be prepared to give it my hearty support.

JOSEPH PETTIPHER.

Woodway House, near Banbury,
October 10, 1909.



The Influence of the Male Bird.

The question whether a male bird has any influence upon the productiveness of a flock of hens is a very important one for amateurs, many of whom have such limited quarters that the addition of one bird makes a considerable difference. I have always contended that an amateur with a small run, with no convenience for breeding and hatching, and with no particular reason for producing fertile eggs, would be making a mistake in keeping a cock. The bird would merely occupy the space and eat the food that might have been devoted to a productive hen, and in such circumstances I should not consider a cock productive, either directly or indirectly. The question has frequently been discussed, and I believe the majority of experts are agreed that the male has no influence upon egg-production. Yet there are still some persons prepared to argue that he has. I cannot claim to have made any particular experiments to decide this question, and I believe that any experiment organised for such a purpose would need to be on a very large scale and extend over a number of years. But throughout my experience I have never been able to detect any difference exercised by the presence or absence of a cock.

The Unnecessary Cock.

I have had flocks of pullets and hens running at large and in small runs without a cock, and they have laid just as well as they could have done had they been mated. To tell the truth, I believe that in some cases they have done better, for there are times when a cock becomes a nuisance. Up to the present no scientific argument has been adduced that is sufficiently strong to upset the old popular theory that a cock does not affect egg-production. We are all ready to be convinced by our scientific friends, and grateful for the light they throw upon poultry-keeping, but in a case of this kind seeing is believing, and when we *know* that hens lay well without a cock, we are naturally sceptical when told that they would have done better with one. However, so far as the small poultry-keeper is concerned, there can be no doubt that a cock is unnecessary

in such circumstances as I have defined, for even though it might be shown that a male does make a slight difference, that difference could not be sufficient to justify the inclusion of a cock in a small pen of layers.

Delays in Breeding.

Delays are always dangerous, but in no case more than in connection with poultry-breeding. We often hear a fancier lamenting the backwardness of his stock. He tells us he was late in mating his breeding-pens, or else he couldn't get eggs. At any rate, when breeding time came he found himself behind, and naturally he wished he had begun to make his arrangements earlier. It is usually the amateur who is backward, because he does not realise the necessity of making his arrangements early. How many, I wonder, at this time, have begun to think about the breeding-pens for next season? Some may say that they don't believe in early hatching, but I can assure them that if they want to make profit from their fowls (and who does not?) they cannot afford to put it off until the late spring. I do not necessarily suggest that everyone should have chickens out by New Year's Day, but I do know that those who can hatch in January and February will make the best prices of their table chickens and have more winter-laying pullets for next season than those who postpone operations until what they consider a more suitable season for chickens. My advice is to pick out your breeding stock as early as possible, get them mated up, and even though you may not see your way to hatch there will be an excellent chance of selling eggs for setting.

Covered Runs.

We have had plenty of opportunities of appreciating the advantages of covered runs during the past wet season, and throughout the winter there will be many more occasions when those who have provided some shelter for their fowls will have cause to praise their own forethought. Those amateurs who have no such accommodation cannot possibly expect to get the best results

from their fowls, for when birds are exposed to all weathers it is a very difficult matter to keep them in good productive condition. Some little time ago I came across an amateur who had four poultry-runs, with a covered run, or open-fronted shed, in each. These sheds were about 10ft. deep and some 30ft. long, thus covering a good deal of ground, and necessitated a considerable outlay when they were built. But comparing the results achieved by this amateur with those of some of his neighbours one could not doubt that the sheds had been paid for many times over.

Shelter for Winter Layers.

No matter whether the run be large or small, a covered portion is a necessity if one wishes to obtain the best results in winter laying. There are many days during the winter when the birds can be turned out into the open, but on the other hand there are occasions when heavy rain or snow prevents proper exercise. It is then the open-fronted shed comes in useful. With some loose litter on the floor and a few grains of corn occasionally scattered about, one can keep the birds active all day, and that kind of activity tends to good condition, and the condition to productiveness, so that the part played by the covered run in winter egg-production is of the foremost importance.

Large and Small Eggs.

It is very annoying to have a number of hens that continue to lay small eggs. One expects a few from pullets when they are commencing to lay, but when birds produce these undersized, unsaleable eggs all through the season it is obvious that something is seriously at fault. I am afraid that in many cases this has become a hereditary defect, intensified through breeding from young, undeveloped stock, for the reason that this particular feature has been overlooked by professionals as well as amateurs. A big egg strain is a very desirable possession, and I believe that in future we shall have more of such strains. Amateurs can do much to raise the standard of their eggs by avoiding for breeding purposes those hens which habitually lay small ones, and also by making a point of using well-developed stock in the breeding-pens.

THE AMATEUR'S GUIDE FOR NOVEMBER.

WE have now arrived at that critical period when severe weather may be expected at any time, and it is the business of the poultry-keeper to be prepared for it. We must not only make sure that the house is wind and weather proof, and that nothing serious is likely to happen should a gale or a snowstorm come along, but we must also see that the birds themselves are in condition to withstand a sudden change. What is their condition at the present time? If they are already in full lay their state of health must necessarily be satisfactory, and with proper accommodation avail-

able they are not likely to take much harm from a spell of bad weather.

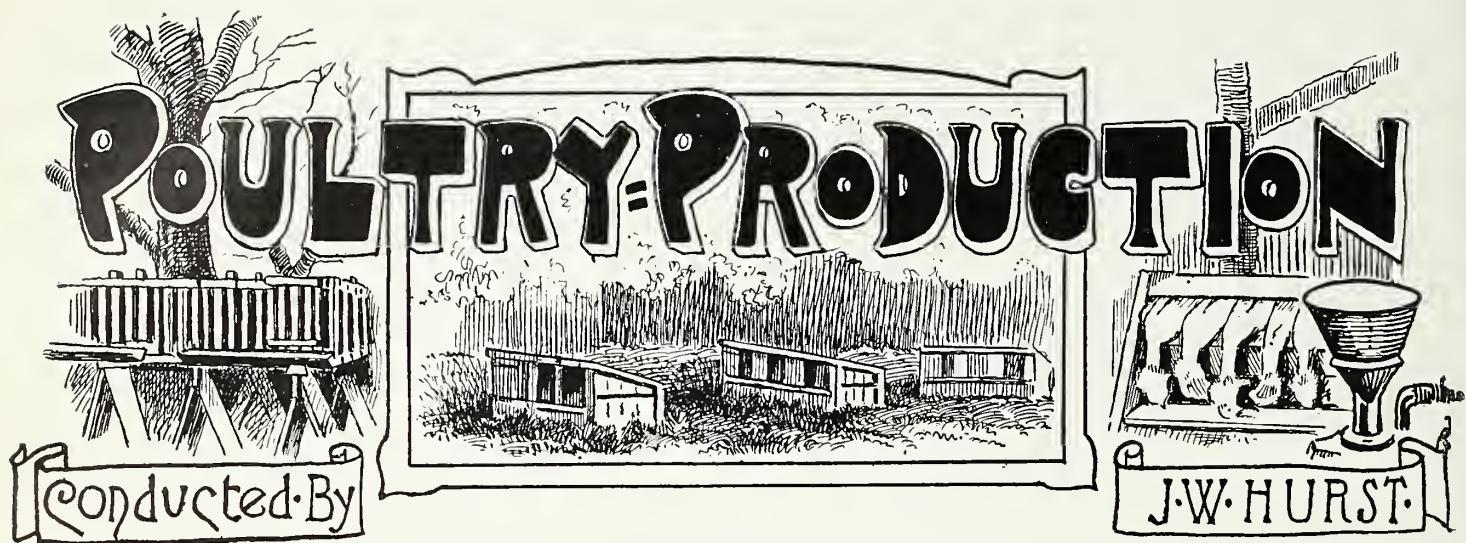
But what of the semi-moulted hens and undeveloped pullets? This has been a bad season for moult. There has not been sufficient warmth to induce an early and quick moult, and hens have been lingering on, moulted a few feathers at a time. We have several that have cast half their old feathers and commenced to lay again, which means a second and more serious moult later on. Pullets, also, have not developed kindly, and the later-hatched ones are particularly backward. These are the birds that will need your attention when bad weather comes. It will check their growth and development, and if they are kept in exposed situations it will be difficult to get them going again.

This is where the advantage of shelter comes in. With some roomy outhouses or sheds one can keep these birds in health and comfort when the weather is too bad for them out of doors. Late moulted hens especially need such protection, and a great advantage with all stock is to keep them active. If they have to be shut up in buildings, see that they do not mope about all day. Spread some litter on the floor and scatter a little corn by way of encouragement.

With regard to snow and its effect upon layers, though it is to be devoutly hoped that we shall have no down-fall before Christmas, it is always advisable to be prepared, and amateurs should know what is the best thing to be done if they wake up one morning to find the earth covered with a white mantle. If there is a covered run attached to the house, all well and good. The birds can be kept confined there. But when there is no covered run and the roosting-house is small a serious difficulty arises. However, the best plan, whilst the snow continues to fall, is to remove the perches and any droppings on the floor, scatter some litter, and throw down hard corn among it. The door may be left open and the sliding shutters dropped, to admit light.

As soon as the snow ceases to fall, however, brush and shovel should be set to work, and a good-sized space cleared in front of the house, on which plenty of hay, straw, leaves, or other litter may be spread. Then scatter some corn about, and the birds will work away quite happily, and keep warm. Do not throw down all the grain at once, or they will become satisfied and cease working. Two or three handfuls occasionally will keep them going for some hours, and if they get tired of scratching drive them into the house again.

Those who have cockerels and other stock to dispose of for table purposes often wonder whether it will pay them better to clear them off at once or keep them for Christmas. If they are already plump and ready for killing, and especially if space is limited, it will be better to market them at once. If, however, the birds are poor, it will obviously not pay to sell them at present, and they should be specially fattened up for Christmas. This means more expense, of course, but large, well-fed fowls realise good prices during the festive season, and one can afford to feed them well for a month or six weeks previously.



Recommencing Incubation.

Although we talk of an all-the-year-round production, and are for all general purposes correct in so doing, there are certain periodic pauses, and the commonest break in the continuity of incubation occurs at about this time. The November cessation is, however, less general than was the case only a very few years ago, and the reason is not difficult to discover. At one time the custom was far more prevalent than it now is of running the same stock of birds right on for breeding purposes the year through, and with such a method it was found that by about November fertility was low, and the stamina of the percentage of chickens hatched was correspondingly weakened; consequently the further custom arose of abstaining from incubation for some weeks at this period, and, in view of the conditions, the abstention was fully justified. Wiser counsels are now in some noticeable measure beginning to prevail, more suitable rules of breeding are being adopted, and in many cases, for some purposes, the November break has practically ceased to exist. Speaking generally, however, of commercial producers as a body, there is a slackening of production, which is most perceptible immediately before what may be described as a widespread recommencement of incubation—which begins to assume important proportions during the few weeks antecedent to the turn of the year. Whatever may be the state of affairs at the present moment, producers as a whole must now complete their arrangements for the putting down of eggs at the end of this or the beginning of next month. If chickens are wanted in December eggs suitable for hatching must be produced in November, because although incubation will not necessarily be in full swing until after Christmas, it is safer to commence it before, and to have the stock in a condition to provide fertile eggs from before the actual recommencement of operations in the incubating department. If the work of the year has duly led up to this there should be no difficulty in the matter, but now is the time to ascertain the state

of affairs as regards the fit condition of the breeding stock and the probability of their meeting the full requirements of the coming season.

In View of the End.

Duties begin to crowd when there is not only the necessity to think of the beginning of one important production but also of the end of another, and the requirements of the Christmas demand very largely synchronise with preparations for the spring trade. The turkey-breeder has, of course, been thinking of the end of the year ever since the spring, but before this month is out his work becomes focussed in a special degree. Stubble should have made considerable difference in the condition of the birds, and a good frame should have been acquired by this time. The separation of those intended for future stock purposes should have been effected last month, and the birds intended for marketing run on the pasture and fed for the maintenance of condition. The time for confinement and fattening is now close at hand, and the process should begin about a month before the date decided upon for killing—therefore some time in November. The longer fattening term of six weeks which is favoured by some men of considerable experience should not be undertaken by the average feeder, who would probably be quite unable to keep the birds in condition so long. Others, on the other hand, object to pen these birds at all, yet although all do not submit equally well to the altered conditions, confinement is in most cases necessary to meet ordinary English requirements. Our own experience suggests that the most satisfactory fattening quarters for turkeys consist of a roomy open-fronted farm building or shed, opening on to a small yard to which access may be allowed in fine weather, the house and yard being kept both clean and properly littered. The range of a yard assists in the maintenance of health without materially interfering with the fattening progress, and

if it is properly fenced the birds may be allowed their exercise more frequently than would be possible during December under other conditions. In cases where no yard is available it is often the custom to allow the birds out during two or three hours daily, but in any case it is usually preferable to confine them to the shed entirely during the week before killing, and this can be done much more successfully if the previous exercise has been sufficient to keep them in good condition. The feeding must be relative to the measure of confinement, and whilst this is not too restricted, a proportionate use of hard grain is allowable concurrently with fattening soft food mixtures ; but the latter must be exclusively depended upon when confinement is complete, otherwise digestive derangements will almost certainly supervene.

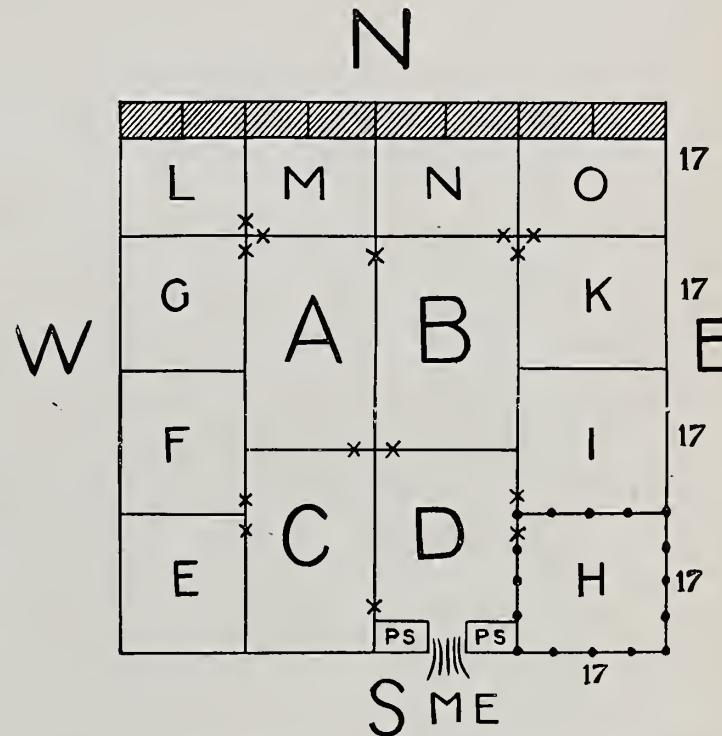
Early Ducklings.

Considerable changes have taken place in this production during recent years, and the realisation of the fact that it is possible and profitable to breed and rear these birds in other districts than that of the original industry has resulted in a much more general output. One natural consequence of this widespread extension is found in the lowering of prices, and to the extent of the reduction of values the pioneer producers have inevitably suffered; nevertheless, the early trade is sufficiently remunerative to be encouraging to those who adopt suitable methods. The primary considerations concern the stock birds, as regards suitability of strain, hatching date, mating, and feeding. These are autumn considerations, to which the work of the preceding months—from the spring onwards—should have led up; and the neglect of any essential factor is sufficient to account for a shortage of fertile eggs when they are required for the hatching of early ducklings. The stock birds that were hatched in due season of a good strain, and that have been properly grown and duly mated (as they should have been by this time), now chiefly demand the attention of the poultryman in the matter of feeding. Although nitrogenous food is essential to a full supply of hatchable eggs, forcing must not be attempted and fattening ingredients must be eliminated. Any considerable or undue use of stimulating foods will probably be productive of ovarian troubles of some description, and when the ducks are laying, any deviation from a normal production must be followed by an alteration of diet and a discontinuance of meat as a constant ingredient of the feeding mixture. Barley-meal is a very favourite food with duck-breeders, but except in severe weather it must be used with caution—barley-meal, meat, and maize, although excellent at some seasons, must always be fed sparingly and with due regard to prevailing conditions and circumstances. A suitable selection of feeding-stuffs for more general use may consist of oatmeal and middlings (with some proportion of meat), and whole oats or wheat and small flat maize occasionally.

HOW TO LAY OUT AN ACRE.

By GEO. A. PALMER.

MANY who start poultry-farming with little knowledge are doomed to failure from the outset, as they commence on utterly wrong principles. I have never advised anyone to give up a certainty, no matter how small, to take on unknown risks with a stock so difficult to handle as poultry. Speaking with the authority of a life spent in general farming and poultry-keeping combined, and as one who has lectured and written much on both subjects for the county councils and the leading agricultural papers, I can unhesitatingly say that of all farm stock poultry requires, and must



AN ACRE OF LAND WIRED INTO PENS

P S PERMANENT SHEDS

M E MAIN ENTRANCE

X GATES

[Copyright.]

have, the most management. There is a living from utility poultry-keeping to a man who is satisfied with a modest cottage home, providing he likes hard work and has business capacity. For him and for the richer amateur poultry-keeper I am going to show how a small poultry-farm can be best laid out.

In the first case we will suppose that there is only one acre of grass, and that it is desired to keep as much stock as will remain healthy. Unless wired into pens, the whole will soon become tainted with only 100 birds on. If divided into enclosures it will keep twice as many, and, by alternate resting, for many years. We can understand that methods of resting and sweetening might increase the number of birds kept,

but why merely dividing the field into small enclosures does so is not easy to see. Still, it is a fact. On one farm of 10 acres near here, where 600 head of laying stock has been kept for the last eight years, and sufficient chickens reared to furnish pullets to keep up the stock, which would mean a total of 1,200 for part of the year, and certainly an average of 800 for the year, the hens have laid better this summer than ever before. This I attribute entirely to the laying hens being kept in separate wired enclosures. Suppose the accompanying sketch to represent a plot 68 yards by 68 yards, or practically an acre. Round the three sides, all excepting the south, pens can be wired off 17 yards square. This will give 10 pens, marked E, F, G, H, I, K, L, M, N, O. The centre of the field will then be 1,734 square yards, which may again be divided into four runs about 21 yards square, or left open as a rearing ground if the

two sheds. Even if 200 laying hens were kept, after the old hens were gone and replaced by 100 pullets, the great bulk of the field could be rested during the winter months. If it is required to keep different breeds and sell eggs for setting, much more care is necessary in putting up the runs. If the birds are very valuable, I should advise that the breeding stock were always kept in the scratching-sheds, and the dividing wires between L, M, N, O boarded 2ft. high, at least, to prevent the cocks damaging each other. When fighting through wire, they cut themselves almost as badly as if in the open. Ordinary pure-bred stock mated in November will soon settle down, and, if a comb gets torn, it does not so much matter, but even ordinary cocks should not be placed next each other during the height of the breeding season, as they are much more vicious, and will fight for weeks.



HOW PART OF THE ACRE IS LAID OUT.

[Copyright.]

expense is considered too great. I should, however, prefer it divided. On either side of the entrance gate are the permanent sheds, which might contain the corn-room, storeroom for tools and appliances, cooking copper, and a brooder-house, if one went so far as that.

To still further extend the plant and make it a complete and ideal one, the whole of the 68 yards north side might consist of scratching-sheds, two to each run, or eight in all, $8\frac{1}{2}$ yards long by 2 yards wide. These sheds would face south, would fence in the whole north side, and would serve as a shelter to break winds off the whole of the field. The eight sheds would accommodate 20 fowls each, which could be let out for an hour or two a day during winter, alternately, each run serving for

We will assume first that the runs are for pure-bred stock, and that they are to be put up so that there is no fear of the birds mixing. Six feet wire netting will keep in all the medium breeds, but some of the lighter ones learn to climb the wire even if their wings are clipped on one side. For them one or two of the pens can be altered by bending the top foot of the wire in towards the pens. Clipping the primaries on one side stops them from flying, and this device prevents their climbing out. I do not think that there is any cheapness in very weak netting, as it so easily gets torn and knocked out of shape. Eighteen gauge two-inch mesh is good for all ordinary purposes. Three-inch of a stronger gauge would do for hens, but the same pens

could not then be used at times for half-grown stock. Wire netting lasts double the time if gas-tarred, and I notice that one of the largest utility farms in England has gone in for this very much of late. If there is time it should be dressed before being used. If a trough is made to hold a roll of netting, one can be placed in it and the gas-tar poured on until it is covered. The roll can then be placed on end in a tub to drain, and finally set out to dry. If petroleum one part to gas-tar two parts is used the roll dries much quicker and still gets enough of the preservative.

After the netting is up it can be quickly dressed by using a half worn-out whitewash brush. I put up a row of pens last year, and am so pleased with them that I do not think I shall alter my pattern. I have before put the netting level with the ground and pegged it down by forked sticks. This time I cut out a grip with a spade, leaving a

would on the same grass, but, what is more, they keep the grass short, so that the runs are always fresh and green for the fowls. For stakes I purchased willow poles, which cost me three pence each at a spinney some miles away. These are a little thicker than one's wrist, and each pole cut an 8ft. length, besides leaving a lot of top for making thatch pegs. I let the poles in about 2ft. deep by using an iron bar, and the result exceeded my expectations, for 95 per cent. of them have grown, and promise to make fine trees. Not only shall we have live stakes that will not rot off, but we shall have shade for the pens, and a further supply of stakes for fencing or any other purpose later on.

These pens slope to the west, and are on a good, light loam, with a vein of sand about three feet down, so that they drain very quickly. Although fowls do well enough at liberty on a well-drained clay farm, I would never



HOUSES AND RUNS ON MR. PALMER'S FARM.

[Copyright.]

trench about three inches deep with one upright side to which the wire is set, and one sloping side. A plough would do just as well. When the netting is fixed the turf is turned back and trampled well solid. If it rots off at bottom it can but be staked there. This prevents any birds creeping under the wire (for pegs will get loose), and serves for another purpose. I now keep a number of rabbits in these pens. They live and breed there the whole year round. They feed with the fowls, and in winter, when grass is scarce, have cabbage and turnips thrown in. There are boxes placed about for the rabbits to nest and shelter in. Some of them even eat the boiled horse-beef that is thrown to the birds. The rabbits pay very well—quite as much as sheep

again put up pens on such a soil. The birds will run more thickly and thrive far better in confinement on a free, open loam with a porous subsoil. That, a southern or westerly slope, and shelter by surrounding hills or woods are the most important things to look for in the choice of a site. It is a great convenience when the turf is fairly level, but if the grass is on old ploughed, high lands, the best way is to keep the wire as far as possible on the top of the ridges, making all the pens the width of one or two lands. The cross-netting must then be stretched across the lands, with a groove cut just through the ridges to let the netting in a bit, and the hollows or furrows filled with rubble, broken brick, clinker ash, or something that the fowls will not scratch

down. The stakes will do about four yards apart, so that a seventeen yard side will be sufficiently supported by the two end ones and three at equal distances between. A hole should be driven in the trench made for the netting quite close up to the upright side of the trench with a crowbar and the stake set upright in it. When the row is completed a cart can be drawn along, and a man standing in it will drive the stakes in with a beetle. The bruised parts at the top of the stakes can be sawn off level after the netting is up. The next thing is to hang the netting on from nails at the top of the stakes, so that the whole length sits well before nailing any on. There are galvanised staples sold for the purpose, but they are difficult to drive in, and 1½in. wire nails driven half in and then turned upwards and driven tight get on faster, serve quite as well, and cost no more. No matter how carefully netting is put up, it will tighten and slacken with changes of temperature. A piece of thin wire, such as is used by woodmen to tie faggots, and called kid-wire, can be threaded through the top meshes and wrapped round the top of the stakes. This keeps the top of the netting taut, and as the trampled earth does the bottom also, it cannot give much anywhere. When the pens are seventeen yards square, a fifty yard roll of netting exactly does the three sides, allowing space for the doorway, thus saving cutting and leaving the rolls in whole lengths if ever they have to be taken down. The doors will clap to a willow stake, but hang best to a squared red deal one.

The plan I prefer is to make a hole with the bar and drive in a short stout stake 2ft. 6in. long and about 2½in. square, so as to leave one foot above ground. To this can be nailed the 6ft. upright, 1½in. by 2in., on which the door is to hang. All corner stakes and doorposts should be strengthened by an angle stake foot set into the ground. I find these carry the doors without giving way. The doors are best made of strips of 1in. boarding about 3in. wide for the framework, covered with wire netting. After the netting is on, the corner strips, one on each side, will strengthen the door-frame and keep the netting in place. The upper bar of the door-frame should not be at the top but should be 5ft. up the 6ft. sides. If the door has a solid top, fowls will fly on to it, but if there is a foot of wire above the frame, which they still fly at, they beat against the wire and do not try again.

I do not like doors from one breeding-pen to another, as if one gets left open by accident the birds mix, and a season's mating may be undone in a moment. If each pen has but one entrance door either from a gangway or from a chicken run, a door left open does no harm, and as it is so very unlikely that two would be accidentally left undone, the risk of pens mixing is very slight. A water supply somewhere on the acre is imperative, and if there is a stream or pond a set of stock ducks may be kept. If fattening ducks are kept on a run until it is coated with manure, this in no way taints the land for chickens.

For a start the scratching-sheds and six colony houses would be sufficient, but it would be a convenience to

have one such to each pen, as hens and chickens do well if placed at once in these houses without the use of coops at all, and in bad weather one such house serves excellently for a brood of winter chicks. At some future time I may give a description of the best sectional colony house I have been able to devise, but this article must be confined merely to the laying out of a field. The total cost for fitting this elaborate plan will be prohibitive to many; for hens kept merely for laying I have a much cheaper plan. I have tried many systems of door fastenings, but now use hasps about a foot long and with a 5in. drop, cut out of a piece of stout galvanised wire. At the foot of the doors I use a board let in to the ground a few inches. This prevents fowls creeping under the doors, as they will when the path becomes worn, and admits of the doors being hung high enough to swing freely. The total cost of this plant is about £60, and if allowed a life of only ten years the annual charge with interest will only be £8. Pure-bred stock properly managed will easily repay this. The following figures are not mere assumption, but are actually what such things have cost me:

	£ s. d.
12 50-yard rolls of 6ft. 2in. 18-gauge netting	9 12 6
150 willow poles at 3d.	1 17 0
14 gates, 4ft. wide, with hinges, hooks, stakes, and staples.....	2 2 0
6 colony houses, 6ft. by 5ft. by 5ft., at 30s.	9 0 0
Labour erecting runs	3 0 0
72 yards shed, including all material and labour	24 0 0
2 food sheds	5 0 0
Sundries, nails, tools, &c.	5 0 0
	<hr/>
	£59 11 6

“POULTRY-BREEDING, &c.”

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—When at the urgent request of others I undertook to reply to Mr. Edward Brown, I had no intention of mentioning my own stock. I did so only because I found it difficult to obtain exact facts bearing directly upon Mr. Brown's point from over-busy practical men. Proofs of stamina there were in plenty, but the records of the progeny of the heaviest layers were not always kept separate from those of the whole pen of heavy layers. I mentioned the inbred groups specially because, if his contention was right, and heavy laying had weakened the pullets, then inbreeding must have brought out this weakness. For inbreeding intensifies all parental characteristics, the good as well as bad, and vigour as well as weakness. When weak stock is inbred, then we get the “stupendous disasters”; when vigorous stock is used we may expect the “strikingly successful results,” as in South Australia, for example. I appreciate the spirit in which Mr. Brown sounds his warning against inbreeding (may I emphasise the fact that commercial breeders of pedigree laying strains in England do not inbreed?), and I am in complete agreement with him in thinking that it would be disastrous in the hands of the

rank and file, with their haphazard and unobservant methods. It is not so in all hands. "Instances are known of strains that admitted no cross of alien blood for forty years. If the fighting men had taught us nothing else than this they have not lived in vain—viz., that fresh blood is *not* a necessity in maintaining vigour so long as the healthiness of the stock is duly considered."*

Seeing such lamentably poor results, especially in stamina, from the methods advocated by utility teachers, I preferred to follow those which I know to have been used in the production of some of the finest herds of cattle, the system which has produced the *crème de la crème* of the finest pedigree cattle and horses in the whole world—namely, that of close and careful inbreeding. When we see, as the result of using one sire twenty-five times, and on both sides of the house, that such a magnificent animal as the shorthorn bull Courtier emerges, one need not feel over-anxious regarding the disasters prophesied, especially as, when all the evidence against consanguinity is submitted to critical examination by the most competent men, not a shred remains to prove that inbreeding is a contravention of any law of nature known or unknown. I would refer Mr. Brown here to Mr. George Darwin's work.

Mr. Brown again asserts, still without advancing proof, that "breeders of all classes of stock will agree

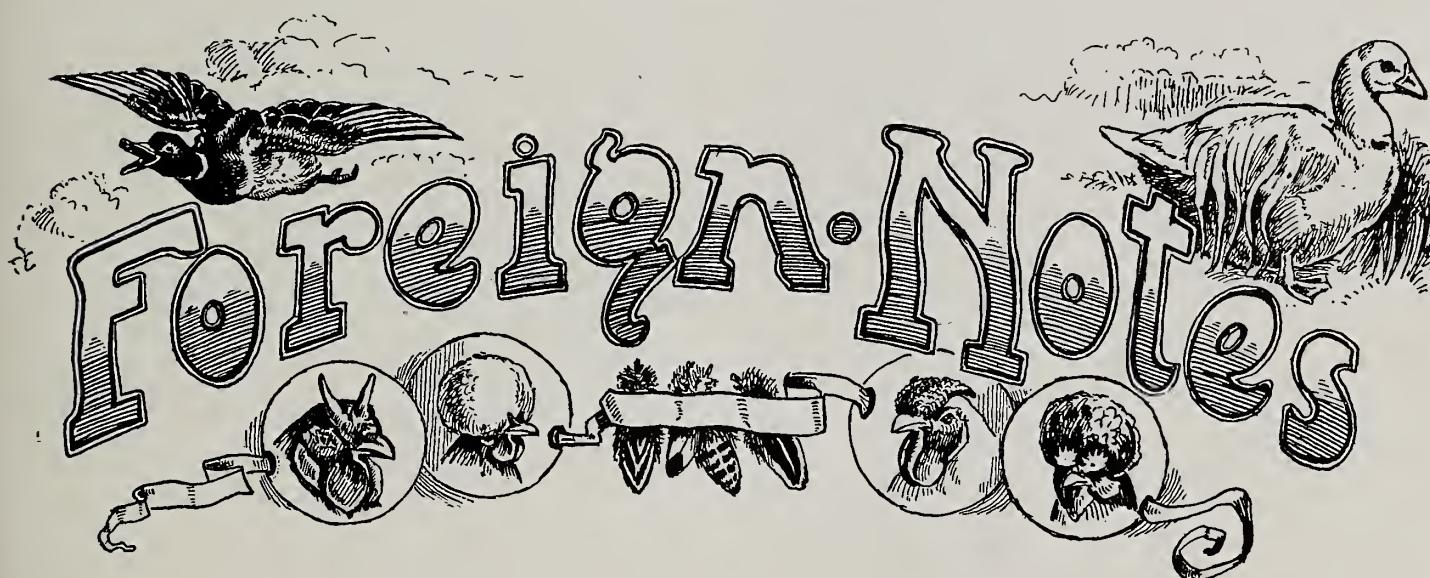
* "The Poultry Manual," p. 233. The Rev. T. W. Sturges.

that the stock from which abnormally productive animals are bred are of greater value than the latter are themselves." But do breeders agree? On the contrary, it is because all the experience of the practical breeders of heavy layers who have communicated with me is *directly contrary* to Mr. Brown's assertion that I have written on the subject. Further, his assertion that heavy laying weakens stock is emphatically disputed by them, and most completely refuted by the empirical evidence brought forward; for whatever three or four years of work proves regarding inbreeding in general, it proves one thing irrefutably—namely, that the heavy-laying pullets from which the stock descended were not weakened by laying, for nothing is more certain than that you cannot inbreed weak stock without intensifying the weakness. Had it been there it must have shown long before the fourth generation was reached. In Australia the seventh and eighth have been reached with even better results. If Mr. Brown is right that the two-hundred-egg hen is a mutant, then our position is considerably strengthened, for the essence of a "mutation" is that it remains constant, otherwise it is merely a "fluctuation." "Mutations lead *per saltum* to a new specific position, and there is no regression to the old mean."†

But mutations, though proven for the plant world, have not yet been proved to take place in the animal kingdom.—Yours, &c.,

A. S. GALBRAITH.

† De Vries. "Die Mutationstheorie."



American Breeders' Association.

The fifth annual volume of this Association contains a large number of valuable communications dealing with every aspect of breeding, from humans to sparrows, and is worthy of study. The committee on Poultry Breeding, which it is proposed to extend, is presided over by Professor James E. Rice, under whose guidance it should do much in many directions. In his notes Professor Rice says :

An industry that amounts annually to half a billion dollars deserves every effort at improvement, and

the poultry industry is such a one. From the stand point of the breeder this industry falls sharply into two classes : utility breeding and fancy breeding. Both classes are important. The ideas of the fancy breeder have been of immense service to the utility breeder. Too much praise and encouragement can hardly be awarded to those who have kept pure and various races of poultry, many of which have come down to us from remote antiquity. On the other hand, in commercial America utility breeding must always interest the greater number.

Degeneracy.

A reading of the aforesaid work suggests many new problems for consideration by breeders generally, show-

ing how wide is the field for investigation and how little we really know. One which forces itself home is, how much degeneracy is due to excess of food and to lack of exercise? Ultra-refinement means weakened constitution, reduced fertility, and gradual exhaustion, and when combined with close breeding and unnatural conditions these tendencies are increased. A valuable bird is jealously guarded, he is kept under highly artificial conditions, is fed on what is considered the best food, and has nothing to do. He is too aristocratic for common pursuits. All this tends to degeneracy, and if he is used for breeding with repetition of the same influences for his progeny, the decline is marked. Here is a subject of supreme importance for observation and research.

Goose Feathers.

In the ante-steel pen days geese were kept for the sake of their quill feathers, and plucked regularly, but that is no longer needed—at least, not to the same extent. According to M. Henri Blin, in *L'Acclimatation*, geese are extensively kept in France for the sake of their plumage, and are plucked regularly from the time they are two months old.

Cold-Storage Eggs.

After a hard fight in both Houses of the Connecticut State Legislature, a Bill has been passed providing that cold-storage eggs shall be stamped or labelled, so that the consumer may know what he is purchasing.

Choose Your Own Chicken.

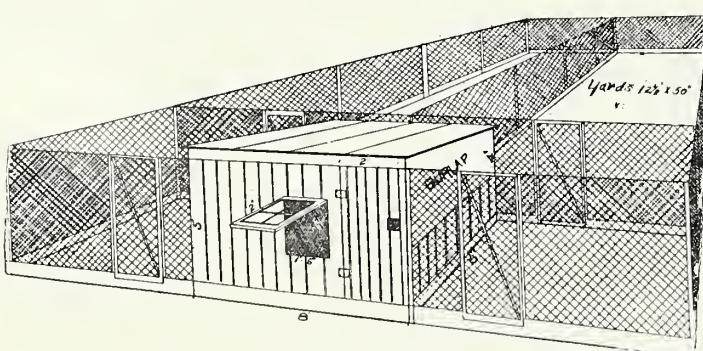
The *Daily Express* is responsible for a somewhat tall story, and which is probably due to the imagination or lack of news on the part of some correspondent:

America's latest idea in catering is a poultry-farm on the top of a restaurant in Thirty-sixth Street, New York, known as Keen's Chop House. Customers, it is explained, will climb up before the hors d'oeuvres and pick out the bird they want for dinner. It will be cooked and ready by the time the joint is cleared away.

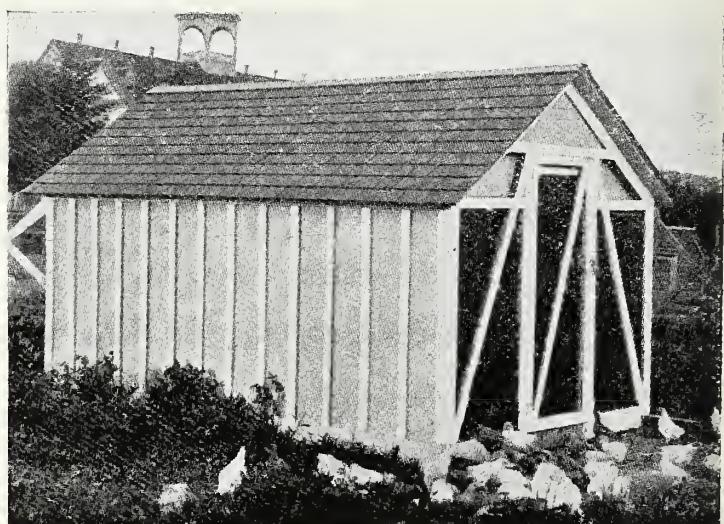
Housing of Chickens.

The Reading Course, Lesson 2, of the Oregon Agricultural College, by Professor James Dryden, contains much valuable information, and gives particulars of the best types of houses, with illustrations, two of which we reproduce. One of these deals with arrangements where the space is limited, described as follows :

The house shown in the sketch is 6ft. by 8ft., with a shed roof. The roof is rather flat for shingles, and may be covered with roofing paper, such as Paroid, Ruberoid, Neponset, &c. There is a door and a



window in the front of the house. The window is hinged to allow it being opened when more ventilation is needed. Except in warm weather sufficient ventilation will come from the end of the house, part of which is shown covered with burlap. Light canvas or muslin may be used instead of burlap. Whatever material is used it must be porous enough to admit the air freely. The burlap extends from the top of the house to within two feet from the bottom. The fowls roost at the opposite end of the house, there being no openings in the walls at the end. This prevents draughts striking on the fowls at night. Usually it will be best to face the house to the south. If the prevailing winds should be from the east the burlap



may be put on the other end of the house, and the door, window, and roosts also changed. For warm summer weather we suggest that a frame of poultry-netting be substituted for the burlap.

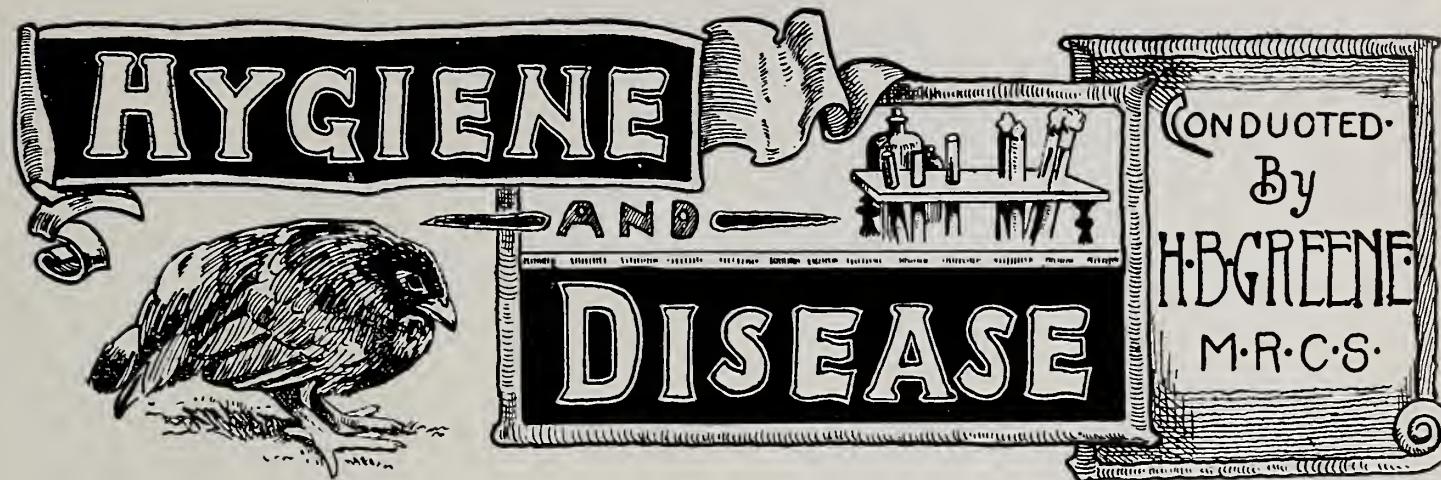
The plan shows double yards, each 12½ by 50ft., less space occupied by the house. This means there will be a "rotation of crops." The chickens will "rotate" with a vegetable garden. That is, the chickens will be in one yard this year and in the other yard next year, and the garden will be in the vacant yard. The house and yards are large enough for ten to twenty fowls, but the smaller number is recommended. The hens should furnish the eggs required for home use, and it will be a mistake to crowd the yards beyond ability to keep them clean. The chicken yard should be spaded frequently.

At each end of the house there is a small enclosure about 6ft. by 8ft. This may be used as a place for hatching chicks, where it is desired to hatch and raise them instead of purchasing mature pullets. Enough pullets to renew the flock of layers may be hatched in these enclosures.

A Royal Honour.

M. J. Lambrechts, Vice-President of the Belgian Poultry Society, has received from King Leopold the Agricultural Decoration of the First Class. Noting this event, *Chasse et Pêche* says :

His avicultural career has been most fruitful. Founder of the Society "Les Ayiculteurs Belges," for fifteen years he has been an active and devoted treasurer; not only has he given labour to "his" society, but innumerable are those who have had recourse to him, to his experience, and his amiable nature, in order to obtain useful knowledge, enabling them to create the great number of poultry societies which exist at the present time in Belgium.



POST-MORTEM EXAMINATIONS.

We have made arrangements by which post-mortem examinations of poultry and game can be effected for our readers upon the following conditions :

1. *The specimen is to be forwarded postage or carriage paid and securely packed to "Biologist," 297, Trinity-road, Wandsworth Common, London, S.W.*
2. *The fee of 2s. 6d. (stamps will not be accepted) must be remitted with each specimen and a letter giving particulars of feeding and housing, or any symptoms which were observed before death.*
3. *Birds should on no account be addressed to the office of the paper. If forwarded there they will be returned to the sender.*

It is recommended that specimens be dispatched by parcels post, where practicable, and as soon after death as possible. A reply will be received by letter, defining the disease, its cause, treatment and prevention.

Avian Tuberculosis and Public Health.

At the Ninth International Veterinary Congress, held last month at The Hague, a resolution was unanimously passed, the text of which is of the utmost importance both to poultry-keepers and the general public, and defines with very necessary emphasis the exact position of avian tuberculosis to the question of the public health. It was resolved :

That the avian bacillus of tubercle, being simply a variety of mammalian tubercle bacillus, and in certain cases capable of infecting mammals, the same preventive measures should be applied to avian tuberculosis as are taken against tuberculous meat.

This finding was arrived at after a discussion of exceptional interest that followed the account of researches recorded by O. Bang, concerned chiefly with tuber-

culosis in fowls. Two new facts stand out prominently as the result of his work. He has proved that the bacillus of mammalian tuberculosis, although apparently differing in some microscopic details and in its behaviour under certain cultural conditions, becomes, after inoculation into hens and a prolonged abode in the new environment, identical in appearance and in its cultural characters with the avian bacillus. He also concludes that there is not sufficient evidence for believing the difference between the avian and mammalian bacillus to be one of species. And with this conclusion anyone who has followed recent developments in our knowledge of this subject will not be likely to quarrel. The work of the Royal Commission on Animal and Human Tuberculosis, as reported in the early part of this year, had already forged the link between human and bovine tubercle. The investigation of the disease has therefore now reached a most interesting stage. On the one hand a connection has been established between mammalian and avian tuberculosis, indicating that their bacilli, although apparently dissimilar, can, after a prolonged occupation of a different species of animal host, alter their types to that of the bacillus we are accustomed to portray as typical of the disease as it occurs in that host. On the other hand, a like relation has been proved to exist between human and mammalian tubercle in regard to the identity of their respective bacilli. It now remains only to join up the links of the chain by a line of research, which will commence with the bacillus of human tubercle, and pass it in a cycle of generations, through a number of mammalian and avian hosts, until finally it is proved, beyond possibility of doubt, that the agents of the disease in man, beasts, and birds are identical, just as we have for long known the effects caused by them to be similar. The writer has always maintained that the success of such an undertaking would depend upon due consideration being given to the differences in body tem-

perature of man, mammals, and birds when conducting it. To inject or feed a fowl (with its body heat of 107deg.) with tubercular virus from man (with his blood heat of 100deg.) and then say, as has been done, that because the disease has failed to be transferred under such conditions it is therefore not transferable at all, is a foolish and unscientific line of argument. But we can easily conceive it possible of transference from man to the bird, or *vice versa*, provided the bacilli pass through intermediate species of mammals, with their intermediate body temperatures—the cow, the pig, the rabbit, and so on. Indeed, we have this summer known an instance of tuberculosis occurring in poultry so situated and fed as to exclude the possibility of infection being imported, where the circumstances clearly suggested the excrement of cattle as the source of the outbreak. The cattle had taken to fording a stream to visit the field occupied by the poultry, in order to scratch themselves against the posts of the enclosed runs. The resolution of the Veterinary Congress takes cognisance of the dangers attaching to tuberculous poultry both as a food and as a living source of infection to other livestock. It is useless to advance, as will be done by those whose dishonest profits will be interfered with by any legislation directed against impure food, that bacilli are destroyed by cooking. We must not forget that a dead trussed fowl with a tuberculous taint will, during its sojourn in the larder, have plenty of opportunity of infecting milk, butter, or any other food in its proximity, or even the hands of those who handle it. We therefore welcome the action of the Congress, and hope it will have the effect of rousing our agricultural authorities to a sense of the fact that tuberculous poultry, accounting as they do for about twenty-five per cent. of the losses by disease among adult fowls in this country, are unnecessary evils, both on financial and sanitary grounds, and we agree that preventive measures against poultry so diseased are no less called for than in the cases of diseased swine or cattle.

Economical Foodstuffs.

A fancier friend of many years' experience in the keeping of poultry recently informed me that he made it a golden rule never to let the food bill of his poultry work out higher than at the rate of one penny per week per bird throughout the year. Anyone who has given it a practical test will have found that this can only be done by close supervision of expenditure on foods, by buying in the cheapest markets, by utilising stubble fields, and the gleanings of the vegetable garden—in a word, by being constantly on the alert never to neglect a chance of augmenting foods which cost money with those that can be had for nothing. A green food-stuff of high albuminoid value is the leaves of either scarlet runners or dwarf beans after the crop has been pulled. These are generally burnt as refuse, but the suburban poultry fancier with a kitchen garden will find them much appreciated, especially by moulting birds. Substituted for a grain feed, they will help to keep down expenses.

POULTRY FLEAS AND THE RED HEN MITE.

By FRED. V. THEOBALD, M.A.

(Vice-Principal and Economic Zoologist of the S.E. Agricultural College.)

OF the external parasites which poultry are subject to by far the most annoying are fleas, the red hen mite, and ticks. Many other external parasites occur on fowls, turkeys, &c., in different parts of the world, but they cannot claim the same general importance as the three mentioned above. The minute acari which cause scaly legs and one form of feather-eating are practically external parasites, so are the bird flies (*Ornithomyia* and *Ornithobia**) and lice, which we have already dealt with.

Ticks are not very common on poultry in Britain, but they do occur, and on pigeons as well. I have found the sheep tick (*Dermacentor reticulatus*) on turkeys in Kent, and the *Argus reflexus* has been found on pigeons at Canterbury and on poultry elsewhere. We must not lose sight of the fact that the fatal fowl fever or "spirillosis" found in South America and the Sudan is due to ticks, and that this disease may occur elsewhere. In Britain, however, the bird ticks do not seem to be of very great importance as far as our present knowledge guides us. This article therefore will deal only with fleas and the red mite.

It is usually in dark, damp, dirty and general unsanitary surroundings that these pests live, breed, and



Fig. 1.—Female Fowl Flea (greatly enlarged).

increase to injurious numbers. Such conditions modern poultry culture tends to do away with, and so by simple sanitation we may expect parasites to decrease and eventually cease to be of any vital importance.

* The Parasitic Diseases of Poultry, p. 34 (1896), F. V. Theobald.

One thing we must always remember to look after, and that is the general health of the birds. An unhealthy bird will suffer far more from parasitic enemies than one in a sound and healthy condition. These parasites undoubtedly cause ill-health, but they also especially go to unhealthy subjects, and then the effects they produce are aggravated.

THE COMMON FOWL FLEA (*Ceratophyllus gallinae*, Schrank).—For some years it was considered that all the bird fleas were the same, and they were spoken of as *Pulex avium* by Taschenberg.* In 1892 I pointed out that there was no doubt that the fleas found on different birds are quite distinct species. The fowl flea (*C. gallinae*) and the swallow flea (*C. hirundinis*) are quite distinct, and so is the pigeon flea (*C. columbae*). Rothschild † in 1900 clearly showed that we have different kinds on different hosts, and differentiated them by the structures at the end of the body. I have never yet found fleas on ducks, and but seldom on turkeys, but they probably often occur on the latter birds. At present there are still many more points that want working out in the bionomics of the poultry fleas. Their mere name is nothing ; unless we can learn all about their habits and development, we cannot hope to successfully cope with them, and that is the main object we must have in view, for they undoubtedly cause a good deal of loss.

The common fowl flea may be found on many other birds besides the domesticated fowl. I have found this species in sparrows' and recently in house martins' nests when built in fowl-houses. Rothschild † records it from the starling, blackbird, robin, long-tailed tit, stock-dove, and also from the long-tailed field mouse and the noctule bat.

The fowl flea, like all its relations, has a very sharp, piercing mouth, which can be seen in the photograph reproduced here (Fig. 1). This mouth is made up of two elongated parts, the mandibles and two long maxillæ together with a single needle-like portion, the upper lip or labrum, and in addition to these true mouth parts are two pairs of palpi, sensory organs. This suctorial mouth is used by the flea for puncturing the skin and for obtaining the blood which forms the flea's food. The needle-like upper lip is serrated and is perforated along its entire length by an exceedingly small canal. The broader mandibles are also notched on each side. The flea does not bite, it punctures the skin. The sensory organs called antennæ in the flea are hidden in pits on the head so as not to be in the way when the insects are crawling amongst the feathers. Their quaint spiny legs are formed so as to enable them not only to crawl but to jump.

Fleas on poultry I usually find to be gregarious, but now and again single specimens occur. They are not permanent parasites, but are what we know as partial parasites, that is, they do not live and breed on the

birds, but only go to them in order to obtain their nourishment. This they do mainly at night, but in dark fowl-houses they may feed at any time when the birds are on their nest or setting. They not only cause severe irritation by puncturing the skin in order to obtain the blood, but they may also carry disease germs from the blood of one bird or animal to another. The rat flea we now know will carry the plague bacillus from rat to rat, and rat to man. These nimble little insects are an endless source of annoyance to poultry at all times where they occur, but they are of greatest inconvenience to sitting hens.

The female flea is somewhat larger than the male. She lays her eggs or nits in the nests, on the perches, and on dung and dirt on the floors, and even in crevices in the walls ; in fact, they may be found in any place where dust and dirt collects. The minute white eggs hatch in from seven to ten days into small pearly-white maggots, with somewhat darkened heads. Like all fly larvae—for a flea is only a wingless fly—they have no legs. In the young maggot we find a horn-like process on the head ; this structure enables the minute maggot to break away from the egg-shell. The length of life varies according to temperature ; in very warm places they may mature in ten days. In cold weather I have kept them for five weeks before they pupated. When full-grown they reach nearly one-fourth of an inch in length. The maggots' food consists of animal and bird débris they find near them, feathers, manure, and so forth. At least, I find they will feed on such matters experimentally. There are some writers who assert that the female fleas disgorge blood for the maggots to feed upon. I think it is more likely that the black excrement passed out by the fowl flea in the nests, &c., where the maggots are has been taken for disgorged blood.

When full grown the maggot spins a delicate cocoon of silk, often covered with dirt, and then changes into the nymph or pupal condition. This stage lasts from ten to twenty-four days, when it gives rise to the active skipping flea. Reproduction may take place all the year round, but mainly in warm weather.

The fowl flea will pass to man. Some people are very sensitive to their so-called bites ; others are not touched by them.

The common fowl flea occurs in America, in Australia, and Kirk records it from New Zealand.

THE HEAD FLEA (*Sarcopsylla *gallinacea*, Westwood).**—This is another poultry flea which occurs in Ceylon, Asia, America, Fiji, and South Africa. It has also been recorded from Russia. It especially sticks around the eyes and ears, and attacks not only fowls, but horses, cats, and dogs, and even children. Lounsbury refers to this flea as very abundant at the Cape, and causing great irritation to poultry, and also that it adheres very tenaciously to the heads of its victims, particularly about the eyes. The larvae are found amongst filth and animal matter in dry, shaded situations. Specimens in spirit sent me from Florida were

* Die Flöhe, p. 71, Dr. Otto Taschenberg, 1880.

† An Account of British Flies, Vol. I., pp. 31-32, F. V. Theobald, 1892.

‡ Notes on *Pulex Avium*, Novitates Zooligicae, Vol. VII., p. 539, N. C. Rothschild, 1900.

* This is placed by some authorities in the genus *Echidnophaga*.

firmly adhering to the ear of a cat, showing how tight they attach themselves to their host.

PREVENTION AND DESTRUCTION OF POULTRY FLEAS.—As fleas love dark and dirty places, one way of keeping them in check is to abolish such conditions. Houses should be well limewashed twice or more a year. The limewash is improved by the addition of one gallon of paraffin to every twenty gallons of limewash. This should be put on by means of a proper sprayer with considerable force, so that it penetrates into all corners and crevices, and be allowed to run down behind all boardings. It does far more good if done in this way than any thickness put on by hand. Sitting hens should be placed on clean nesting material. The nesting-boxes should be dusted with pyrethrum or Persian Insect Powder, or some sawdust mixed with powdered naphthaline should be sprinkled over the bottom of the boxes, and the hens should always be cleaned of vermin before they are put on the eggs. Lounsbury tells us that the larvae of head fleas and such adults as are on the ground may be easily killed by spraying with paraffin emulsion. It is also said that the adult head fleas can be caught in large numbers by placing a piece of raw meat on sticky fly-paper.

THE RED HEN MITE (*Dermanyssus avium*. Redi).

—The red hen mite, a small acarus, is a frequent and widespread scourge of poultry. It occurs all over Europe, in America, in all the South African Colonies, including Rhodesia, and, I believe, in Australia. Other allied species occur in pigeons and other birds.

The adult mite is provided with a sharp mouth, by means of which it sucks the blood of the birds. At the same time it causes severe irritation. It is quite small, nevertheless visible to the naked eye. The general form is seen in the photograph (Fig. 2). The colour varies from pale dull yellowish-grey to dull red. The latter hue is due to the blood, taken from the bird, showing through the thin skin of the mites, and there are also dark intestinal patches showing through the body wall. The adult mites have eight legs. The females are the chief culprits, the males not being nearly so bloodthirsty. The mouth is very different from that of the flea ; it consists of a pair of needle-like lancets, really mandibles, placed between the palpi.

Like the flea, the hen mite is mainly nocturnal, hiding away in crevices in perches, nesting-boxes, and walls during the daytime, but when present in large numbers they may be found on the birds during the light. They are most prolific creatures. The minute white ova hatch very rapidly. At first the young acari are six-legged, and are quite white, but as they grow and moult their skin they become coloured and eight-legged. The frequently-cast skins often form a white powdery mass on perches, &c. ; this pale powder is a sure sign of mite infestation. The young mainly feed on dirt on the perches and in the boxes. Maturity is reached in ten days or so.

Attacked birds become emaciated and generally unhealthy. An examination of a night will soon show the presence of the mites on the skin. Sometimes red

specks may be seen on the skin where they have been feeding. This acarus will attack people who are employed in poultry work, and often cause severe irritation. Horses and cattle may also suffer from their bloodthirsty habits, but they only live and breed in close proximity to poultry. They may even attack the ears and nasal openings, and then cause very severe irritation.

PREVENTION AND TREATMENT.—With regard to preventing the fowl mite, the same may be said as in connection with the fleas. Perches, nesting-boxes, &c., should be freely movable, so that they can be well cleansed in boiling water and some disinfectant. The ends of the perches should be steeped in tar. Frequent limewashing alone will do good. The addition of four ounces of crude carbolic to each gallon of limewash is recommended in America, but my experience is that carbolic is quite harmless at any reasonable strength to these acari. On the other hand, paraffin is fatal to them



Fig 2.—The Red Hen Mite (greatly enlarged).

If the attack has been a bad one it is advisable to spray the house well with paraffin emulsion, and to repeat the treatment some five or six days later, so as to kill those mites which have since hatched from the eggs. Nothing at present seems to destroy the latter. The paraffin emulsion I have found most successful for destroying acari is made as follows : Take five gallons of paraffin oil and eight pounds of soft soap and boil together in a copper ; when boiling, add one pint of cold water and stir well. This, of course, should not be done on an open fire. The mixture can be ladled out and put into pails, when it consolidates into a jelly, which can be kept for some time. When used for cleansing poultry-houses of mites and fleas ten pounds of this jelly should be dissolved in twenty gallons of warm water.

NOTES FROM CORRESPONDENTS.

SCOTTISH NOTES.

By ALEX M. PRAIN, J.P.

WHAT promised to be a fine early harvest in Scotland has been somewhat spoiled by a period of dull, wet weather towards the close. The crop is now all secure, however, the most of it being in good condition. What a relief it is to the poultry-keeper to get the new grain on the market! The very high prices which have ruled during the greater part of the year are already considerably reduced. The fall in prices just coincides with the increase in the consumption, for there seems no satisfying the appetites of the growing stock just now. Both bone and feather have to form, which means abundance of nourishment of the proper kind.

I walked over some stubble fields the other day just to get an idea of the amount of grain which had been lost in the process of harvesting. The crops had been a fair average, by no means heavy, and the weather for harvesting had been all that could be desired, yet a close examination revealed a vast store of grain, enough to feed colonies of fowls till winter set in. Crows, pigeons, starlings, and small birds of several kinds were fattening themselves on this wasted grain. Later on the wild geese and wild duck—not to mention the pheasants and partridges—would get their share. There was enough for all. The farmer cannot help this loss of grain. It is caused by the shake of the reaping machines, the stooking, forking, &c., through which the grain has to pass. But the farmers are decidedly to blame for not making profitable use of it, instead of letting it go to feed the wild birds and game. Yet in the whole of this fertile valley of the Tay, stretching for twenty miles between Perth and Dundee, there are only a few movable colony houses to be seen, and these belong to myself. What is the reason of this neglect on the part of the farmers? Is it ignorance, or indifference, or both? Certainly it is not want of intelligence, for better-managed farms, or better stock, cannot be found anywhere in Scotland. What would a back-yarder give for the use of one of these stubble fields?

The early chicken shows are once more a thing of the past. This year they have been remarkable rather for the quality than for the number of the exhibits. At Strathmiglo the classification is most complete, and the enterprise of the management has been recognised and appreciated by the Fancy in the right way—namely, by increased entries. Kinross Show was scarcely so good as last year, but both Milnathort and Troon were well ahead of previous events, both in numbers and quality. The competition for the specials offered for the most points over the show, or in any one class, has been

keener than ever, and some teams of extraordinary merit have been staged. Notable among these have been Mr. John Mechie's Silver-Grey Dorking pullets, every one bred by the exhibitor; Mr. Henderson's (of Strathmiglo) Brown Leghorn pullets, Mr. Morgan's Silver Wyandotte pullets, Mr. Leitch's Rocks, and Mr. Cathcart's Orpingtons. Many of these birds could win over the Border if their owners would take the risk of sending them. As it is, a good many have already changed hands at good prices to English fanciers, and it will be interesting to follow their careers for their new owners. Several successful shows have also been held in the northern counties. I had the pleasure of judging one of these held at Moy Hall, near Inverness. Moy Hall is the Highland home of The MacIntosh of MacIntosh, under whose patronage the show is held. No entry-money is charged, and classes are provided for the tenantry of the Moy estates, and also for the County of Inverness. It was a delightful surprise to find 300 entries staged, many of the entries being of excellent quality, and quite good enough to win at larger events. The classification embraced all the leading varieties of poultry and ducks as well as Turkeys, and the Minorca, Leghorn, Wyandotte, and Orpington classes were all well filled. There were also several pens of Light Sussex, which had evidently taken well to their new quarters. This show has been going on for years, and its educational value has been of the very greatest. To find a show of 300 entries in a district so high above sea-level, and entirely surrounded by grouse moors, is indeed a credit to the enterprise of the proprietor. True, it may be run more on philanthropic than on business lines, but it is philanthropy directed in proper channels. Though I have written mostly about the poultry, there were classes for horses, cattle, sheep, dogs, flowers, and home industries. In the latter Mrs. MacIntosh of MacIntosh takes a very deep and active interest. During last hatching season a large number of sittings of pure eggs were distributed through the Scottish Agricultural Organisation Society to members of affiliated local societies. Last month the secretary, Mr. Drysdale, made a tour round the districts in which the eggs had been distributed for the purpose of marking the cockerels which were suitable for breeding purposes. His report is most encouraging, as, in spite of adverse weather conditions, hatching results have been satisfactory and the stocks of poultry consequently much improved. The development scheme inaugurated by this Society is to be prosecuted with even greater vigour next year.

It is lamentable that work of this kind should be left entirely to voluntary effort. Surely the Government must waken up shortly to a sense of its responsibility in

this respect. Under a Department of Agriculture, a comprehensive scheme to embrace the whole of Scotland might be introduced with enormous benefit to the whole community.

Still another specialist club has been formed—this time for the furtherance of the Rhode Island Reds. I am pretty confident this breed will soon run over Scotland, just as the Buff Orpingtons did ten or twelve years ago. In my travels over Canada last autumn I formed a very high opinion of this breed, and actual experience with a pen which I bought has confirmed my judgment in every respect. The demand for pullets is already making itself felt, and prices are undoubtedly rising. In fairness to our home breeds I ought to add that my experience with the Light Sussex has been quite satisfactory also.

NOTES FROM WALES.

By A. T. JOHNSON.

ONE of the wettest seasons on record has concluded with such heavy rains that in many parts of the country the valleys have been under water and much damage caused. "Cloudbursts" have wrecked many farm buildings and played havoc with crops of roots and the remnants of a late and melancholy harvest. Little wonder that "all sinners are afraid as to what will happen next," as a pious old Welsh farmer put it to me the other day! But there is a cheerful side to most disagreeable things, even to sinners, perhaps, and, on the whole, the season from the poultry-keeper's point of view has been a good one. A rainy season always means plenty of animal food for the chickens, with the result that the pullets are more forward this year than I ever remember seeing them. Instead of November finding them still undeveloped, many cottagers and farmers are now enjoying the exhilaration of selling their eggs at twopence apiece. Quite early in October I saw some roadside flocks of White Wyandotte pullets, and, in field houses, a number of White Leghorns which were laying three-halfpenny eggs in goodly numbers, and it is surprising what an encouragement this actual realisation of "profit" from the often despised hens at this slack season has had upon Taffy's ideas of poultry-keeping. But no doubt the greatest stimulant he has yet had in this matter is the "Record Poultry Book" in his own language. Many people do not often realise what the latter means to the Welshman who is still faithful to his old tongue, and who can seldom, in rural districts, read a word of English. He is naturally keen—few are keener—as a poultry-keeper, but the appalling condition of the industry in Wales may be accounted for by the fact that the Taffy has ever been muddling along with principles—or no principles at all—that are antiquated and futile. But I firmly believe that the introduction of this little book will mark the beginning of a new era in Welsh poultry culture. It is not for me to touch upon its merits, but its influence for good is already

being felt in the Principality. Taffy is so flattered to find a book presented to him in his own language that he will read it and ponder over it with delight, whether he keeps poultry or not.

I have often had occasion to point out that Wales is pre-eminently a country for poultry-keepers. It was a land of small holdings ages before County Councils were dreamed of, and, being so, is most adaptable for poultry culture in any form. The mildness of the climate is such that snow seldom lies below the 700ft. line, except in the interior, and the country being hilly and the soil light, drainage is naturally good. From evidence collected from time to time I have been convinced that, within reasonable limits, poultry can be run on the small moorland farms of Wales with great success. Range is, of course, unlimited, and the air lacks the humidity of the valleys. There are flocks of layers, owned by shepherds and others, at an altitude of 1,500ft., that do remarkably well, and that are often laying when those in the valley are not doing so. To some extent I think this is due to maize feeding—that being the usual diet—which suits birds at that altitude, whereas it has just the opposite effect upon those lower down. But the fact remains that these Welsh highlands might be enormously productive to the poultry-keeper. His grazing would thereby be improved beyond his brightest hopes, and the flocks of geese which might also be run on such land—these being marketed early for preference, as the cartage of food is heavy under such conditions—where not a single feather is now seen, could surely compare at least favourably with those of the colder climate of our eastern coasts.

The most successful show of the past summer season, as indicating local progress in poultry-keeping, was that held by the Merionethshire Agricultural Society at Bala on September 10. Although the poultry section of this event was only one of many others in different departments of agriculture, and although the "deck-sweeper" was present, the farmers of North Wales turned out some really good stock. Some of these birds held their own in the open classes, and the latter confined to the county were a most creditable show in themselves. It is in events such as these that we can most clearly note signs of progress, and other agricultural societies in the Principality would do well to follow Bala's lead, and cater in a more up-to-date manner for the requirements of their respective localities.

YORKSHIRE NOTES.

By F. W. PARTON.

IN all parts of the country the demand for eggs steadily increases year by year, but probably nowhere is the demand so marked as in the West Riding of Yorkshire. In the densely-populated industrial centres, where, in proportion to the population, very little poverty exists, the artisans are in the happy and prosperous condition of earning good wages, and they will have their breakfast egg, irrespective of price.

Strenuous effort is being made to supply the county's own needs in eggs, enormous as the consumption is, and to this end non-sitting races of fowls, in many districts, are taking the places formerly held by the heavier type. It is not an easy matter to convince a man that he is not keeping the right birds to meet the local demand; he usually has only one breed in his mind, and he imagines his particular favourite what he wants it to be, and not what it really is, and his fidelity to his fancy is most tenacious. Once, however, give the hard-headed, practical Yorkshireman actual proof that more can be earned in other directions, and he will come round to your way of thinking much quicker than by any other method of persuasion. However, in very many cases it is accomplished, and the light, active non-sitters largely predominate in the county; and this change of breeds is greatly increasing the adoption of artificial methods, mostly among a class of poultry-keepers whom one would scarcely associate with the possession of incubator, brooder, and other necessary impedimenta. This is highly satisfactory progress, and each year the number of eggs produced in the West Riding increases, with prices well maintained, and every indication points to still greater development among this large body of small poultry-keepers.

Despite the long-continued bad weather, turkeys in many parts of the county are doing remarkably well, not only in numbers, but in size and condition. It is a well-known fact that to the young turkey damp is one of the most serious obstacles to successful growth, and they certainly have had that to contend with during the past summer. The appearance of the birds up to the present time is proof of the great care and attention bestowed upon the young ones to have brought them satisfactorily through this most trying period, and if they continue the same progress during the next two months, Christmas will see no diminution in the supply of the season's delicacy, and the turkey-breeder will be amply repaid for his extra labour in having had to provide more shelter than would have been necessary during a more favourable summer.

Owing to the late harvest much "stubble" will not be done by either geese or turkeys this year, and a great falling-off is seen in the Irish geese; and where large flocks have been fed in former years, very few are in evidence at the present time.

Ducks are not bred in Yorkshire to any great extent, and those that do go in for this branch of poultry-keeping very rarely make the attempt to have their produce ready in the spring. The result of this is that remunerative prices are very seldom obtained. It is a prevailing idea that ducks cannot be reared for the early markets with any great amount of success in the North of England, but this has been abundantly proved otherwise by the few individual cases where men have specialised in this direction, and the ducklings have compared favourably with those from districts that are famous for ducks. In the shows also North-Country specimens have proved their worth.

SUSSEX NOTES.

By S. C. SHARPE.

THE season has not been a good one for the chicken-rearing industry in this county, and consequently there are not so many late chickens to be seen. On many of the farms where a large number of birds are reared, it is not unusual to see 1,000 or 2,000 young birds at this time of the year, for at some places they rear all the year round, at others they may only go in for the early spring chickens. But where fattening is carried on in conjunction with rearing, birds are always wanted to keep up supplies, so that it pays to be continually having chickens hatching out. There are a good many places where hundreds of birds are fattened and sent away regularly every week, and yet there is not a single bird reared on the place—all have to be bought in. It is only on the larger farms that chickens can be both reared and fattened. This is mainly due to the use of the manure from the fattening-pens. On large farms this excellent manure can be used on the corn land and roots with wonderful results, but when one is running only a small lot of land, with perhaps all pasture, and the manure from the pens is used here, the chickens would go sick on that land, and it would be impossible to rear them. So it is that several fatteners in Sussex rear no chickens at all, but send for miles into Kent and different parts of Sussex, collecting birds at the farms on their way out and back. I have noticed this season, when travelling through the county, that the "higgler" carts have not been so heavily loaded, and this points to less birds being reared in Kent during the past season.

IRISH NOTES.

By MISS MURPHY.

OCTOBER brings the usual batch of changes amongst the teaching staffs of the various counties. It seems a short time since I chronicled similar changes in the first issue of the I.P.R., now a year ago. Amongst the changes of which there is information to hand are the following: Miss M. R. Johnston and Miss S. Warnock have been appointed to teach butter-making and poultry-keeping by the Roscommon Committee; Miss C. G. Mercier has been given the post of poultry instructor, in addition to that of dairy instructor which she already held, in Co. Down; Miss Walker has gone to Kildare to succeed Mrs. Swaine (formerly Miss Stafford).

The use of trap-nests reveals many strange facts about hens which otherwise would remain undiscovered. As an instance of this the following may be of interest: A Barred Rock pullet began to lay November 1, 1908, and laid 112 eggs between that date and April 7, when she went slightly broody, and ceased laying. In about a fortnight she was again in perfect condition, and showed every sign of laying. Still there were no eggs. In about two months' time she began to frequent the nest, and was taken therefrom regularly four or five times a week, until July, when she became

quite broody, but during all the time she never laid an egg. She was put in the broody coop and cured of the broodiness in about a week, after which she moulted and is now looking redder than the laying pullets. It is the first time I have known a hen to go broody without having laid. The question naturally arises, did the hen imagine she had laid a batch of eggs, or do trap-nests induce broodiness? I do not think there is any doubt that with birds inclined to be broody, such as Orpingtons and Sussex, allowing them to remain a long time in a small dark nest does hasten their going broody, but where a hen has not laid it is a different matter. I have heard a poultry-keeper declare that eggs set from birds beginning to go broody produce pullets which are in their turn of a more broody nature than those hatched from eggs laid at the beginning of the batch. It may be so, but would be difficult of proof.

EASTERN JOTTINGS.

By N. A. SWAFFIELD.

WE are told it is an Englishman's privilege to grumble, and if in any year this privilege could be exercised to the full it is surely in the year of grace 1909. Corn cut six weeks ago is not yet in the stacks, and a good deal of the grain is sending forth green shoots, which when the sun does shine—for very short intervals, it is true—makes a pretty, but very expensive, contrast to the golden grain.

And what of the turkeys? In an ordinary season the birds would have been on the "shack," as it is locally termed, for about a month. Who can estimate the value of this "shacking" to the growing birds? The exercise, the grub life, the fresh ground, not to mention the sprouting grain, are of untold benefit in producing size of frame and heavy flesh. Even when the grain is harvested and the turkeys can roam at will over the stubbles, their stay must of necessity be a short one. The "rakings" on many of the fields now are showing growths an inch long, and this fact, coupled with the high price of meal, will add at least 25 per cent. to the rearing cost. Will the price per pound be 25 per cent. higher at Christmas? I think not.

On some of the heavy lands the flocks are sorry looking specimens, with "swelled heads" pretty prevalent. This fresh trouble coming on the top of a bad hatching season will render the lot of the turkey-keeper, like that of Gilbert's policeman, not a happy one. Unfortunately, many of the smaller farmers look to the turkey cheque to go a long way towards paying the Christmas bills.

There is one glimmer of light amid the gloom, and that is that despite the unfavourable spring we did not hear so much of the unnamed turkey disease—something like the enteric in pheasants, so dreaded by the game-keeper—which formerly killed off the whole of the turkey poult on a farm. Now a remedy has been discovered which to a great extent prevents this wholesale destruction.

One feature of the season is the scarcity of early-hatched turkeys. In most districts in the Eastern Counties the early eggs came infertile. On one farm known to us 200 eggs produced three turkey chicks. The second clutch gave far better results, but the loss of time will make a big difference to the weight and price at Christmas.

As with the turkeys, so with the chickens. The number of early-hatched pullets is, speaking generally, very small. I am afraid there will be a scarcity of eggs in November. In regard to the egg trade, farmers cannot grumble. I never remember a season when eggs have been worth more. In many districts the lowest price was 18 a shilling—low enough, 'tis true—and this only for a week or so. Contrast this price with even five or six years ago, when for about two months in the year eggs could be bought at 24 for a shilling. Several causes are operating to effect this change in price—the establishment of the co-operation depots at Fakenham and Framlingham, the increase in the farm produce to the trade, and last, but not by any means least, the number of eggs preserved.

A rough census of the increase in the number of birds passing through the markets was taken last spring, and in every instance a marked increase in numbers was shown, in several cases an increase of from 80 to 100 per cent. over five years ago. This increase in numbers was also accompanied by an increased value. The local trade with the seaside towns of Yarmouth, Lowestoft, Cromer, and Hunstanton is an increasing one, and this trade comes at a time when prices in London are low.

THE PEREGRINATIONS OF THE DOMESTIC FOWL.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—I have read with great interest Mr. Brown's article under the above title, and have arrived at the same conclusions, as will be seen in my book now in the press.

There is, however, another point which I beg to point out—namely, whether a transmigration from India to Europe did not take place via Madagascar and Africa. The Greeks before Christ had brought the black Negro (Silky) fowl from Africa, stating it to be the black fowl from Ethiopia. How had this race come to Africa, and in the strange form which it is still known? is the question. That must have been at a most remote period. We know that at one time (tertiary period) India and Africa formed one great continent, to which China joined. A great volcanic range formed the Indian Ocean and the Malay Peninsula. That poultry then existed is apparent. Our inquiry, therefore, is whether the Negro fowl descended from the *gallus ferrugineus*?

At the same time, I send a list of poultry books in my library, which will be given complete in my book.—Yours, &c.,

R. HOUWINK, Jun.

Meppel, Holland.

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BIBLIOGRAPHY OF POULTRY.

COMPILED BY EDWARD BROWN, F.L.S.

Compiler's Note.—With the object of securing as complete a list as possible of Poultry Books, it is proposed to give from time to time particulars as to such as are known. My own library embraces nearly 350 volumes on this subject, but there must be many not contained therein. I beg respectfully to request the kindly co-operation of owners of books not named, with a view to making the list exhaustive. In sending particulars I request that the following be stated : (1) Full title, and sub-title, if any; (2) Author's complete name, with any information respecting the writer; (3) Place of publication and name of publisher; (4) Date of publication, if given; (5) Number of edition; (6) Number of pages and size of book; (7) If illustrated; and (8) Whether in paper or cloth. Acknowledgment will be made of source of information. The books marked with an asterisk I have not been able to verify, and fuller details will be welcome both as to books and authors.

LIST No. 2 (Continued from page 54, October, 1909).

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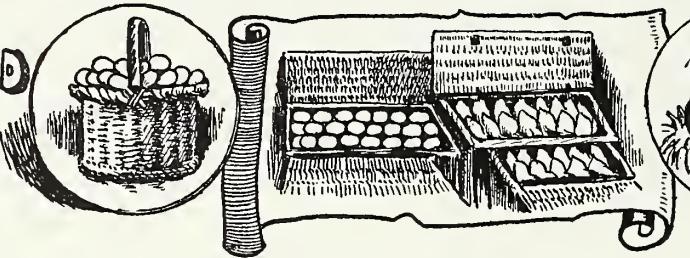
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(To be continued.)

The Markets & Marketing

CONDUCTED BY  VERNEY CARTER

THE TEUTONIC APPETITE FOR EGGS.

WILL GERMANY INTERCEPT
OUR FOREIGN SUPPLIES?

By VERNEY CARTER.

THE eyes of all politicians have of late been turned upon Germany. From indications already manifest, soon—probably sooner than at present anticipated—the eyes of poultry-producers, and all interested in this particular trade, will be turned there also. Germany is steadily building up for herself a great commercial future ; she is enlarging and increasing the scope of her manufactures, as well as her fleet and army. Her population is growing fast, her commerce flourishing. According to the latest statistics her trade has increased during the past twenty years by 102 per cent. When a nation's commerce and manufactures flourish its people generally congregate. Towns, cities, and manufactorys grow apace, and the problem of feeding becomes daily a matter of greater difficulty. The tastes and requirements of a people alter as their environment changes.

Town dwellers require as a rule lighter, more delicate, and appetising food than do those whose occupation is in the open, whose labour is generally more physical, and carried on under healthier conditions than usually obtain in cities, factories, and offices.

That some great change is taking place in Germany's domestic economy is evidenced by the extent to which she has, during the past few years, been increasingly drawing upon the egg and poultry supplies of other countries. She is now the largest importing country of poultry produce in the world, England ranking second. True, the preponderating mass of her egg imports is from Eastern Europe, where eggs are cheap. However, she is annually drawing supplies in growing quantities from Italy. This, to a very considerable extent, accounts for the large falling-off in the quantities we have been receiving from that country during the past three years. Germany, however, cannot be held entirely responsible for this decline, as Italy is increasingly consuming her own produce at home, and at periods she has had to draw upon the supplies of Austria and Hungary to meet her requirements. The decline in the quantities

of Italian eggs on the English market has very materially assisted to maintain prices in this country, as it is from Italy that we draw eggs for general cooking and sweet-meat purposes.

As will be seen from the statistics given below, Germany is importing huge quantities of eggs and poultry from Russia and Austria-Hungary. In 1907 the price of Russian geese, owing to the large demand for the German markets, rose 24 per cent. According to a Russian Consular report published in 1908, 900,000 geese had been sent from Russia to Germany during 1907, and the same numbers had been exported by October 15, 1908. As from that date to the end of the year generally about 25 to 30 per cent. of the whole exports is dispatched, it would seem probable that no fewer than 1,500,000 geese were exported by Russia to Germany in 1908.

Information is also to hand that English egg merchants, who are the principal buyers in the Netherlands, and largely control the Dutch egg trade, found that at certain periods of this year they could obtain better prices for Dutch eggs in Germany than in England. As to what extent this was found to be the case there is no definite information ; however, it is a slight indication of the economic changes Germany is bringing about. What, however, is of great importance is the very strong feeling prevalent among poultry shippers and egg merchants in this country that Germany will exert a greater and more important influence upon the poultry industry of the world in the future, as she will be bound to import to meet her growing demands, and that, as a result of her commercial competitive spirit, she will require to draw her supplies from the cheapest markets.

Many assert that it is the dearness of meat in Germany which has caused her to import poultry produce. Probably they are correct in their surmise, but it may be depended upon that as her factories and commerce increase, her town dwellers will increase, and consume more poultry and eggs per head than at present. Whatever the economic cause may be which is impelling her to draw supplies from other countries to meet her requirements, let us hope that the same will increase ; it will be good for poultry-keepers in this country as well as for those abroad. But in order to reap the full

benefit of the arising situation it will be necessary for home producers to greatly increase their present production; if not, it is just possible that values may become unduly enhanced and trade stagnated through prices becoming prohibitive.

It is only when we turn to the German official returns of her imports of eggs and poultry for 1907—the latest at present available—that we fully realise what an immense influence she is already exerting. The facts there disclosed are truly startling to those who are not cognisant of the facts. They disclose, as briefly mentioned in the October issue of the ILLUSTRATED POULTRY RECORD, the fact that Germany is now the largest egg and poultry importing country in the world. This is the more surprising as she has gained this position in a comparatively short time, and well may we wonder to what extent she will intercept our supplies in the future.

For the facts and figures given below I am indebted to the German Consulate, for whose courtesy and kindly assistance in extracting the figures which relate to the imports which were consigned directly to and consumed in Germany I wish to express my warmest thanks. Without their assistance I doubt whether I should have been able to have arrived at such accurate results. The quantities and values of these imports are expressed in the German returns in kilogrammes and German marks. In order that our readers should be able more readily to compare the English and German imports, I have worked out their equivalents in English tons and pounds sterling.

The following table shows the principal countries from which Germany and England draw their egg and poultry supplies. It also gives the respective weights and values for each country.

GERMANY'S IMPORTS OF EGGS, 1907.			ENGLAND'S IMPORTS OF EGGS FOR CORRESPONDING PERIOD.		
Countries of origin.	Weight in tons.	Value.	Countries of origin.	Weight in tons.	Value.
East'n Russia	65,056	£3,202,936	Russia	48,074	£2,392,044
Austria-Hungary ..	58,046	2,915,075	Denmark	25,448	1,774,318
Bulgaria	6,216	309,153	Germany	18,887	1,030,190
Italy	4,837	274,253	Belgium	14,287	891,460
Netherlands ..	4,069	202,398	France	8,251	541,088
Roumania	3,867	182,721	Canada	775	53,084
European Turkey..	2,135	95,105	Other C'tries	8,611	452,348
Servia	1,425	88,350			
Switzerland ..	438	23,984			
Belgium	264	12,873			
France	146	7,978			
Egypt	141	6,901			
Denmark	61	3,083			
Other C'tries	400	22,571			
Totals.. Tons	147,101	£7,347,381	Totals.. Tons	124,333	£7,134,532

GERMANY'S IMPORTS OF POULTRY, 1907.			ENGLAND'S IMPORTS OF POULTRY DURING CORRESPONDING PERIOD.		
Variety of poultry.	No. of birds.	Value.	No. of Birds or Countries weights not of origin. available.	Value.	
Geese, alive	7,207,373	£1,113,757	Russia	—	£271,357
Chick's,,	7,878,013	639,011	Belgium	—	178,357
Dead Poultry, various	—	484,777	France	—	206,417
Ducks, alive	1,508,680	187,567	Unit'd St's	—	202,065
Pigeons, &c	483,840	25,795	Other C'tries	—	45,651
Totals ..	17,077,906	£2,450,907	Total Value ..	£903,847	

TOTAL OF GERMANY'S POULTRY AND EGG IMPORTS :

Eggs, 2,900,000,000	£7,347,381
Poultry, 17,077,906 head	2,450,907
<hr/>	
	£9,798,288

From the first glance at these tables it would appear that Germany exported eggs to the value of £1,030,190 to England, but upon reference to Germany's exports for 1907 of eggs and poultry it is apparent that this is not the case. The eggs credited to Germany in our Trade Returns are of Southern Russian and Austro-Hungarian origin, and only pass through Germany. It is well to point out here that these eggs are not included in the quantities given as being imported by Germany from Austria-Hungary.

GERMANY'S EXPORTS OF EGGS AND POULTRY, 1907.

Poultry (alive and dead) ...	Total value, £31,207
Eggs, 640 tons ...	" 64,904
Total ...	£96,111

From the above figures it will be evident that she consumed practically the whole of her extraneous supplies. It will be seen at a glance that Germany's imports of poultry were two and three-quarter times greater than those of England. It is, however, not what Germany has done in the past that is of so much importance to home producers as what she is likely to do in the future, and to what extent her demands for foreign supplies will increase. Her competition in foreign markets is not confined to poultry products only. She is already our strongest competitor in the Siberian butter market. Owing to her large consumption of Siberian butter, the values of that product are being greatly enhanced, and English merchants are feeling severely the effects of German competition, as the increase of values in Siberia has not been followed by an equal rise in values in this country. Although, up to the present, she has drawn the larger half of her egg supplies from Eastern Europe, we must be prepared to find that as Germany becomes richer she will make bigger demands on those countries in Western Europe whence we obtain our best foreign supplies. That she will do this in future, there is a general unanimity of opinion among the merchants of this country.

In conclusion, I would like to point out that nearly all the countries of Europe and America, as well as our Colonies, are yearly increasing their consumption of their own poultry produce, which fact should stimulate production in this country, and that the poultry industry of this country, "The Cinderella of Agriculture," as "Statistician" aptly christened his article in last month's issue of this journal, should receive greater support from our educational authorities, as the growing demands of Germany, the continued rise in values in Russia, and nearly all other countries, will have far-reaching results on the poultry industry of Great Britain and Ireland.

PROPOSED EXTENSION OF THE SMITHFIELD MARKETS.

A NEW BUILDING FOR LIVE HENS.

THE authorities of the Central Markets, London, are considering the advisability (so we are led to understand) of erecting a new building which is to be devoted exclusively to the live hen trade. The idea owes its origin to the objection raised by meat salesmen and others to having live hens adjacent to their business premises, as is the case in some few instances at the present, on the grounds that the excreta of the fowls is not cleanly or wholesome—a most reasonable objection. One can readily understand how easily heavy carcases of meat, when being handled in the proximity of live fowls, might come into contact with their excreta, especially in a place like the Central Markets, where there is a heavy pedestrian traffic.

Apart from the cost of erecting a new building there are other problems which the authorities have to face, and not the two least of them are these: Will those who are now carrying on the live hen trade in odd corners of the markets consent to being placed under one roof and probably having to pay a slightly heavier rent than at present, or will they leave the markets altogether? Again, the present dealers in live fowls urge that they cannot always sell the birds alive, and consequently they are obliged to kill a good proportion of them at times and sell them as boilers or soup-makers. Naturally they say that if the excreta contaminates meat, why should it not act the same as regards dead fowls? But this latter objection, it seems on the face of it, could be easily dealt with.

The provision of a building for the live hen trade seems to be a desirable thing in many ways other than from the hygienic point of view. It is also desirable on humanitarian grounds, as a building could be designed in a manner more suitable to the requirements of the trade and the comfort of the birds than is at present the case.

IRISH EXPORTS OF EGGS AND POULTRY, 1908.

FROM the Report of the Department of Agriculture and Technical Instruction for Ireland, we learn that the value of the Irish export of all classes of live stock into the United Kingdom was twice as large as that from all foreign and Colonial countries during 1908. Her export of butter was second in value, Denmark ranking first. Irish eggs were second in quantity, Russia sending the largest number, but the value of the Irish eggs was very considerably greater. Her export of poultry was much greater than from any other country. As regards bacon and hams Ireland was fourth on the list, the United States ranking first.

It will be seen from the following list of relative values

of Irish agricultural exports that poultry and eggs rank third.

Cattle...	...	...	...	£10,935,197
Dairy Products	...	...	...	4,143,628
Poultry and Eggs	...	...	...	3,605,449
Bacon and Hams	...	...	...	3,160,668
Horses	...	...	...	1,347,225
Pigs	...	...	...	1,332,258
Sheep and Lambs	...	...	...	1,316,199
Total	...	...	...	£25,840,624

It is estimated that of Ireland's total exports of all kinds not more than one-fifth goes to Colonial and foreign countries, the other four-fifths remaining in England.

Market Reports, Week Ending September 25.

Business was much the same as recorded the previous week, values showing a slight upward movement. The English poultry coming to hand was fairly plentiful and of good quality. Weather slightly adverse to holding over of stocks of poultry. Grouse were very scarce, and realised high prices. Foreign eggs were much the same in value as last week, with the exception of Italians, which dropped 1s. English eggs firm.

Week Ending October 6.

Mild weather had rather a depressing effect on poultry; trade values were inclined to recede. Game considerably more plentiful. Pheasants coming in had adverse effect on poultry. Both foreign and English eggs in good demand.

Week Ending October 13.

Nothing much to report, as trade showed but little fluctuation from last week. A few Capons sent to market met with good demand. Game cheaper excepting Grouse. The value of foreign eggs rose, also English advanced considerably.

Week Ending October 20.

Demand for English a little brisker. A few Irish Turkeys arrived, and met very moderate demand. English Game still in the ascendant. Both foreign and English eggs were scarce. Demand for the latter was greater than supply; values ruled high for the period.

Imports of Foreign Eggs During September, 1909.

These again show a falling-off as compared with the corresponding period of 1908, bringing the total shortage for the nine months up to about 96,000,000 of eggs. Every country shows a decline in quantities, the most remarkable being from Germany, Austria-Hungary, Italy, and France. The quantities received from Russia are practically the same as during September, 1908. The total number received up to September 30 last was 12,603,841 great hundreds, valued at £4,944,535, as against 13,403,380, great hundreds, in 1908, valued at £5,035,141.

The Table of Prices will be found among the advertising pages at the back.



TROPHIES AT BURROW HOUSE.

BURROW HOUSE FARM.

BURROW HOUSE FARM, the residence of Mr. and Mrs. J. Wilkinson, both well-known exhibitors of prize poultry, lies about three miles south of the town of Lancaster, and is a little way west of the high road to Preston. The London and North-Western Railway line forms its eastern boundary; and a few miles further eastwards a range of high hills would seem to protect it from the worst of the wind that comes from that quarter, though, as everybody knows, the hills are yet unmade that will keep out the east wind altogether. The farm is within measurable distance of Blackpool and other coast centres of importance, and the sea at its nearest point is near enough for one to reach it in a moderate walk.

The whole estate consists of about 35 acres of grazing land, divided, about its middle, by a road running parallel with the railway. The soil is a light loam, containing, as it seemed to us, a considerable admixture of sand, and being therefore naturally dry. Drainage is further helped by the lie of the land; it slopes gently downwards towards the railway line, which at this point runs through a deep cutting. Mr. Wilkinson's residence, of which we give a picture, abuts on

the dividing road on its west side, and on this side also are the original range of pens and a range of cockerel houses and runs. East of the road are the farm buildings, two fields dotted with cockerel boxes and coops, the New pens, the "Red" pens, exhibition houses, and other houses and runs that have been put up from time to time as the stock increased.

A few good trees, notably a magnificent, wide-spreading oak in the centre, give a park-like appearance to the eastern section of the farm. However, it is the western, and the older, part that is the more luxuriantly wooded, and since it was on this side that the nucleus of the big business was formed, we will begin our survey with some description of the original plant. This consists of a range of twenty-six houses and runs, bisected by a wide pathway, as shown in our photograph. The houses vary somewhat in size, but they are alike in being, with one exception, without floors and in having the nest-boxes outside. Fruit trees have been freely planted in the runs, affording abundant shade and shelter; in regard to the latter point, one should mention that the parallelogram of pens is protected on three sides by a substantial hedge, and on the fourth by

TRADE SUPPLEMENT

Mr. Wilkinson's tree-embowered residence, and the finely wooded range of cockerel houses and runs, of which mention has been made. There are twenty-eight of these cockerel-pens. At the time of our visit they were accommodating old birds, and the original range was inhabited by



THE NEW EXHIBITION ROOM.

[Copyright.]

a remarkably forward-looking lot of chickens. Before proceeding further, we may say a word or two of the stock at Burrow House. In time past practically every known breed has been kept here, but at the present time the stock has been

narrowed down to Buff, Black, and White Orpingtons, and Barred, Buff, and White Plymouth Rocks. The Rocks and Orpingtons seemed to us to be about equal in numbers, but we were informed that there is another farm about five miles away, belonging to the same owners, which is entirely devoted to Orpingtons, so that we may conclude that the balance of interest lies, if anything, on the side of this breed.

The "Red" pens on the other side of the road were built about six years ago, and, as may be imagined, owe their title to the colour of their paint—a colour that is pleasingly complementary to the green of the meadow. When we saw them they were occupied by pullets; two of the pens contained White Rocks, two Barred Rocks, and the remainder Orpingtons. A short walk across the grass took us to the New Range, which, we should add, has only recently been

completed. The houses, which are of the combined roosting-place and scratching-shed type, open-fronted, are rather larger than those in the other ranges, and they are further distinguished from the latter by being creosoted instead of



THE NEW RANGE OF BREEDING-PENS.

[Copyright.]



THE ORIGINAL RANGE OF BREEDING-PENS.

[Copyright.]

painted, the creosoting being both inside and out, so as to render them proof against vermin as well as weather. There are eight of them with accompanying runs, each of the latter measuring 40 yards by 12 yards ; and at the present season they accommodate cockerels of all the six Rock and Orpington varieties kept. The picture of the range is taken from the farther side of the railway cutting, looking towards Burrow House.

The cockerel-boxes for birds allowed the larger liberty of the meadow vary in size, the largest being 8ft. by 6ft, and the smallest 6ft. by 2ft. 6in. Like the other houses, they are floorless ; the absence of floors, indeed, rendered possible and safe by the natural dryness of the soil, is a feature of the establishment, in keeping with the note of simplicity that prevails generally. The houses are home-made ; a joiner's services are always available when required on the premises, and all the details of construction, even to painting or creosoting, are carried on without any extraneous aid. Fads and fancies in fittings are conspicuously absent. The comforts accorded to

the stock are just as many as are conducive to good health, and no more ; and indeed, when one looks at the trophies on Mr. Wilkinson's side-



BURROW HOUSE.

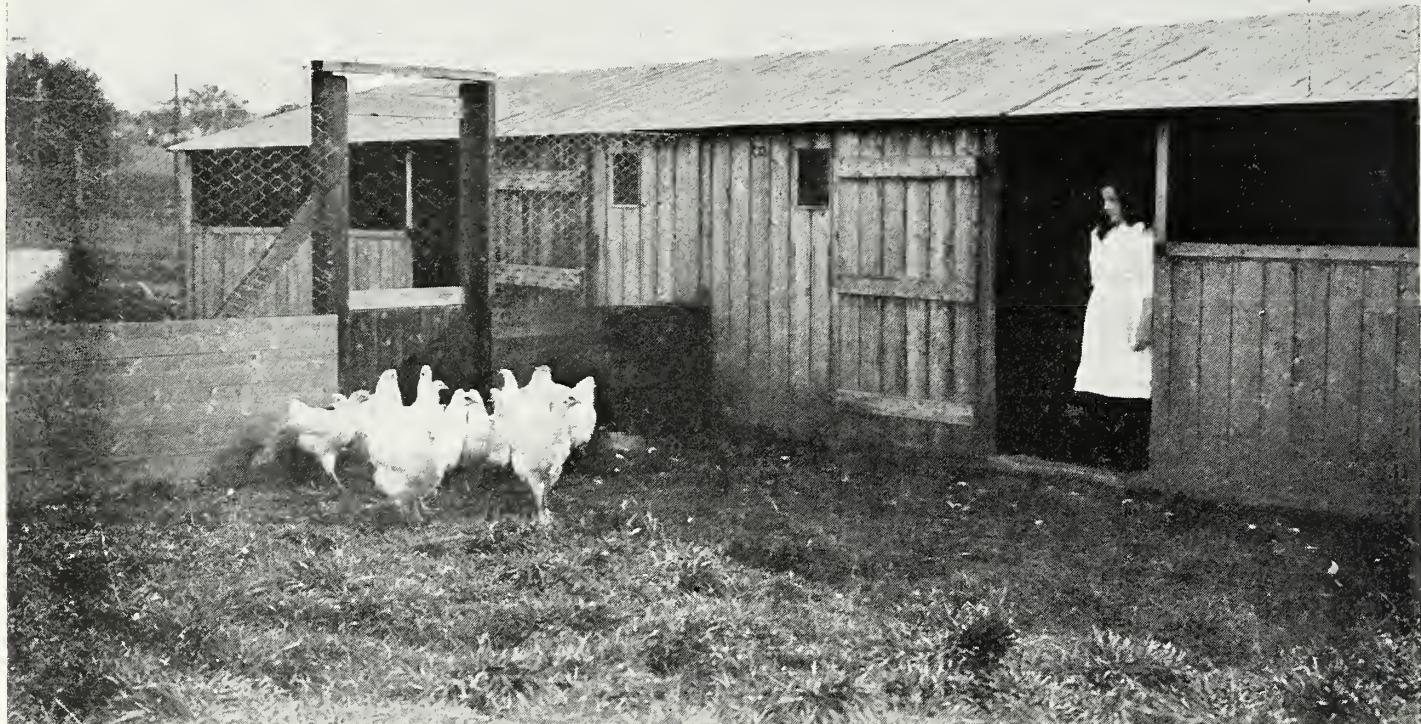
[Copyright.]

board, one begins to wonder whether there is any method, save the Spartan one, of rearing Fancy fowls, that is not vanity. Yet, although

TRADE SUPPLEMENT

the birds here are reared under conditions that are as near to outdoor nature as possible, it must not be assumed that modern adjuncts to breeding are disdained. On the contrary, while there is no definite preference for artificial, as opposed to natural, hatching, or the reverse, there are eight incubators kept going, to lighten the labours of the broody hen, and we have no doubt that when a foster-mother is

drying room. The food stores are in sheds close by. There is, perhaps, not much to be said concerning the system of diet, except that no hot food is given, the slight warming of the morning meal being all that is allowed in severe weather. Ground oats are used, and—in accordance with the principle and practice of the farm of doing everything for itself—the oats are ground on the premises.



WHITE PLYMOUTH ROCKS IN THE NEW PENS.

[Copyright.]

required, it is not withheld for the sake of an abstract principle.

We give a picture of the latest and largest of five exhibition houses. The remaining four are less roomy, but are serviceable apartments, each with a concrete floor and cages comfortably littered with chopped straw. One of them is used in the season as an incubator house. A spacious kitchen on the ground floor of Burrow House itself serves the purpose of a washing and

About 1,400 chickens have been reared this year, the most prolific egg-producers being the White and Buff Orpingtons and the Buff Plymouth Rocks. During the breeding season the principal trade in eggs is done in eggs for setting, and, of course, the breeding is almost wholly for stock. No little business, however, is done in table eggs, and the stock is bred and sold for its utility qualities as well as for fancy points.

THE HEARSON FACTORY.

THE history of the Hearson Incubator has some time since become incorporated with that of Spratt's Patent, Ltd., but the big building in Willow Walk, Bermondsey, where the incubator is manufactured, still bears on its outside the name of Charles Hearson, and brings back vividly to memory the tale of a famous invention and its long and honourable career. To this building we found our way one fine October morning intent on seeing, not so much the

latter promise is fulfilled sufficiently as soon as one enters, though all available space is fully occupied, and we were informed that further premises are necessary to enable the ever-increasing business demands to be filled. Even as it is, a large warehouse has been leased, away from the main block, in order to provide additional space for storage, and, from the look of it, packed as it was from floor to ceiling with goods waiting to be dispatched to customers, its



TIMBER YARD FROM ABOVE.

[Copyright.]

finished product, as something of the methods that govern its production and that of the foster-mothers and other poultry appliances made by the company. The factory, so far as regards its exterior, is much like other factories—architecturally dignified rather than ornate ; but it occupies a commanding position in Willow Walk, and one would have to be blind in both eyes not to observe it directly one enters that thoroughfare. It gives one the impression of height and breadth, and the promise of ample accommodation within ; and

capacity will be seriously taxed when the busy season, only just begun, approaches its climax.

THE PLANT.

Of the interior of the factory in general we need record but one impressive feature—namely, the abundance of daylight. Each of its four floors is as well lighted as it can possibly be, and with the window space there are given, of course, unlimited facilities for ventilation by fresh air. To begin with the ground floor,

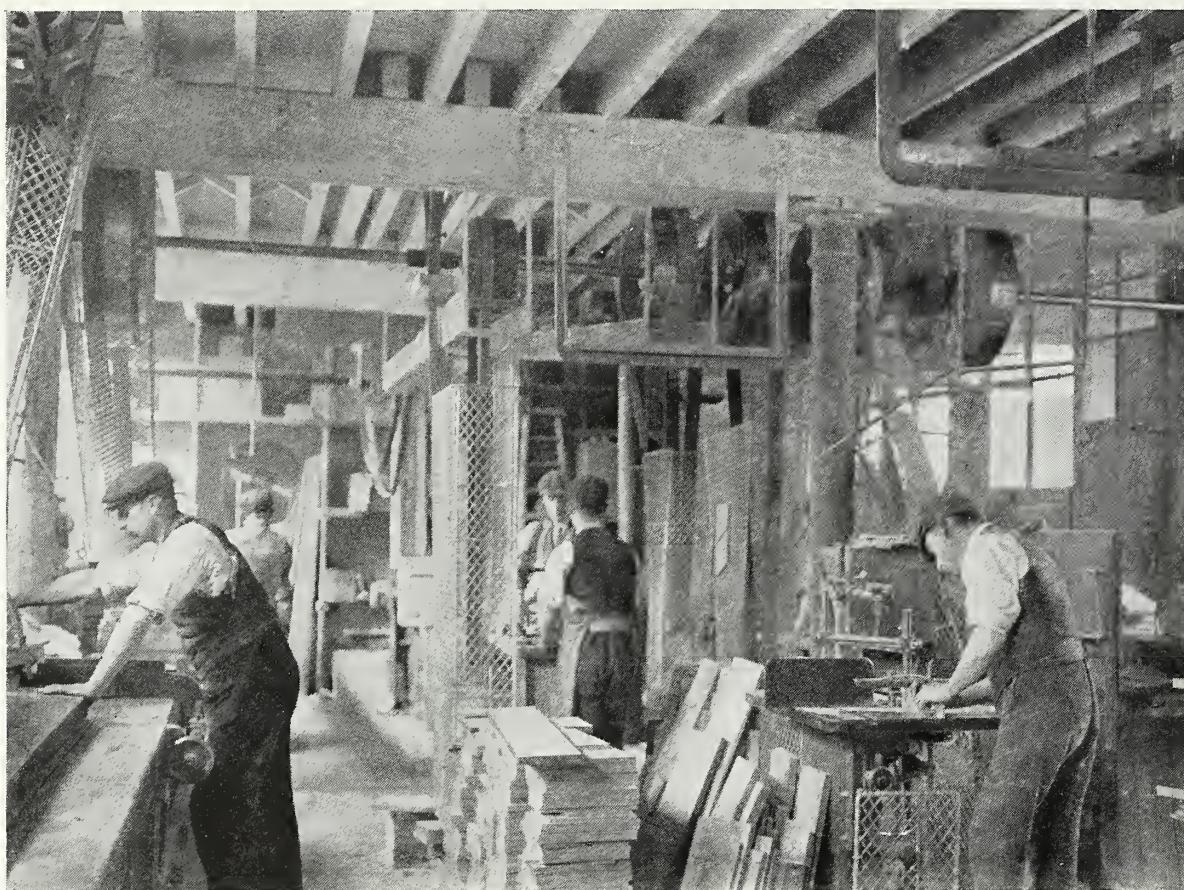
TRADE SUPPLEMENT

one passes the offices and enters a large machine-room, with rows of windows on each side, within which the timber, brought from the yard just outside, is sawn and shaped preparatory to fitting. The timber is imported in 3-inch deals, in widths of 7, 9, 10, and 11 inches, and when brought into the machine-room is cut up by circular saws into the various thicknesses required. We noticed two types of these saws, one for cutting the timber across, and the other for dividing it lengthways, the latter operation involving the cutting through of several

is sunk between two divisions of a metal platform. All this mechanism is worked by a Crossley gas engine of twenty-horse power, running smoothly and almost noiselessly in its small house adjoining.

THE METAL WORKSHOP.

We have spoken of this apartment as the machine-room, but as a matter of fact it is that and a little more. The actual machinery occupies but half of its abundant space, the remaining section being taken up with a phalanx of sub-



MACHINE-ROOM.

[Copyright.]

feet of solid wood, perhaps 11 inches deep, in considerably less time than it would take a man to draw a straight pencil line along the top of the plank. The next process we were shown was the passing of the cut wood through a "thicknessing" or planing machine; another labour-saving contrivance was a spindle-moulding machine; other machines, almost side by side, were for the complementary processes of "morticing" and "tenoning." Looking for a sandpapering machine, we found an excellent one of the oscillating type, in which the sandpaper roller

stantial carpenters' benches, at which, we assume, machined work is modified to suit particular requirements. This department, however, calls for no special remark. On the next floor above, the metal workshop provides plenty of interest. We saw here incubator tanks in the making, funnels for filling them, lamps and lanterns, all the accessories for brooder or incubator—a wealth of metal, copper, brass, and tin, being cut, hammered, and soldered—and we were left to guess at the total bulk that comes into this workshop from one year's end to the



FITTING-ROOM.

[Copyright.]

other. But we could estimate from the amount of copper required for the tank of a 200-egg "Champion" that many hundreds of tons of this metal alone are used by Hearsons. In metal, as in wood, there is no stinting of material; and to this must be attributed in some measure the marked solidity and quality that enable the proprietors of the Hearson Incubator to claim that their machine is one that lasts a lifetime.

INCUBATORS AND BROODERS.

The floor above this is devoted to a packing and fitting-room. Here we found a very large, very well-lighted room piled up with incubators and brooders—hundreds of incubators of all sizes—some enclosed in packing cases, others new and shining in the glory of fresh paint, a small army of workmen engaged in preparing for the final phase of incubator-making, its dispatch to the customer. We saw the incubator for 200 eggs, and those for 100 and for 50 eggs; the "No. 20," a giant with two drawers, both fitted with thermometers, each holding from 100 to 120 hen or 180 pheasant eggs, with its substantiality in proportion to its size. A similar machine as to total size, perhaps even more solidly built, was an incubator for ostriches, capable of holding 30 eggs. The firm make a smaller one of the same kind for 12 eggs. The "Champion" Foster-Mother for 50 chickens was also here, a portable

brooder with handles at one end and wheels at the other, whereby it can easily be shifted by a single operator to new ground; and a two-



STACKED TIMBER.

[Copyright.]

chambered cold brooder, which, while dispensing with artificial heat, is so protected that the loss of animal heat is prevented.

TIMBER.

It was from one of the windows on this floor that we obtained our photograph of the timber yard, and here we may interpose a word or two as to where this timber comes from, what it is, and how it gets here. It is shipped mainly from Quebec and Montreal. The whole of it is the best Canadian pine. It is brought overseas to the Thames, to the Commercial Docks and Millwall, thence to the factory by an easy wagon journey of less than two miles. Once a month comes a consignment ; and it should be pointed out that every consignment is safely housed at the factory some twelve months before it is

one we noticed particularly some specimens of "Hearson's" Cramming Machines, made in two sizes, and rigid without being heavy ; and the other contained brooders and incubators undergoing, or about to undergo, staining, varnishing, or painting. Those who are acquainted with the "Hearson" incubators will not need to be told that these finishing processes are performed with the same eye to fine workmanship as the previous stages of their manufacture.

THE INVENTOR OF THE CAPSULE.

It would be well to mention here, for the sake of the younger members of the poultry world,



METAL WORKSHOP.

[Copyright.]

wanted for manufacture. It is important to note the latter fact, because the proper seasoning of the wood before use, which can only be accomplished by time, is as important a factor in the durability of the "Hearson" manufactures as the solidity of their construction. There remains but one more floor to explore. That contains a further fitting-room for miscellaneous articles, accessories, &c., and the painting-room. In the

that Mr. Charles Hearson was the inventor of the capsule which regulates the temperature of the present-day incubators. Although this invention is now twenty-five years old, the capsule has not been improved upon or superseded, and since the introduction of "Hearson's" Incubators there has been no real advance in these apparatus. Thus this incubator has held its own against the combined inventive skill of the whole world.

THE POULTRY-KEEPER'S OTHER INTERESTS.

By "HOME COUNTIES."

Author of "The Townsman's Farm," "Poultry Farming: Some Facts and Some Conclusions," "The Case for the Goat," "Country Cottages," &c."

"Poultry should be only one part of the stock."

—*The Secretary of the N.P.O.S. in the "Cyclopaedia of Modern Agriculture."*

A BETTER WATER SUPPLY.

It is not often that a poultry-keeper takes a place without a good water supply, but now and then a man who is spreading a bit with his birds finds he could do with a better supply. Undoubtedly, good water has much to do with keeping poultry in health. Mr. Simon Hunter has water laid on to his runs, and so have other men in a biggish way. And, of course, if a poultry-keeper goes in for other things besides birds—cows, for instance—he needs good water for his butter. When it is a question of sinking a well, the problem is where to fix on as the site. In the rural districts, nowadays, you are not allowed to build a cottage without providing a water

A WELL AND NO WATER.

I sunk my well where it was most convenient for me to have it, and I got a contract for 30 feet, fifteen shillings a foot down to 20, and a rise in the rate to 30. When I got down to 20 there was boulder clay, and there was boulder clay at 25 and 30 feet. So I stopped, for the map of most of the parish at the Geological Museum in Jermyn-street—you can see a map of your own district there for nothing—showed boulder clay the depth of houses and houses down. One of our parish wells, which the authorities at Jermyn-street had a note of, went down to 175 feet. But I know wells in the parish which get water at 30 feet, and one at 6 feet.



supply, and the wise building owner digs his well first to make sure of water. He is influenced in deciding on the pitch usually by the advice of some old man, often a bricklayer, who does the laying of the bricks in wells, and the veteran says he expects that there'll be water there or there, but he misdoubts whether it'll be come on either here or there. And often enough he turns out a true prophet. Then there are the regular practitioners at the water-finding business. Here is a portrait of one who has been water-finding for me.

These, however, I found by thumbing the map, happened to be at spots where there was a bit of sand among the clay. As I saw no sand at the site of my well, I was a bit downcast. So I called in the water-finder.

ENTER THE WATER-FINDER.

He started work, without a question, with a watch-spring. And it coiled up a yard and a half inside my gate and just 17 feet from my well. Elm and hazel twigs broke in succession at the same spot. "There was

just a splendid supply of water 17 feet from my well," said the wise man. "Dig down at once with certainty, and you will get a beautiful supply," he directed in a grandfatherly manner. Then he went about the place generally, and there was water, he gave me to understand, at twenty spots. They were all in straight lines, east and west, I noticed, one line of points beginning at the 17 feet away site. Whenever the old boy crossed one of the lines, up curled his twig or watch-spring. It was most impressive.

AND THE PROBLEM AFTERWARDS.

What was I to do? "Abandon the old well," he persisted, "and dig with conviction at any marked site." The next day I asked my contractor if he could not bore through from my well to the 17 feet away site. He said he could—with a bore made up of little lengths of steel which had to be unscrewed and screwed together at two places each time they went on. It was a slow job indeed, but we got through to that 17 feet-away site. No water. We did it again at a different height. Not a drop. Then we tackled a trickle which had been coming in all the time from the other side of the well, away from any of the water-finder's sites. We twice poked in our bore at two places there. No sensible improvement, and all the men's time to pay for. What now? Well, said the contractor, better drop it for a bit and see if the water don't find its way somehow. So I took his advice. We closed over the yawning depth below the windlass, and possessed our souls in patience for, I think, a fortnight. Then we had a look at the well. Bless me, if there was not a fine lot of water! Out we bailed it—a day's work pretty well. The trickling place was certainly running much more freely. But none of our pokings seemed to have been responsible for it. The water was just finding its way to the open space that we had cut in the earth. And so we did nothing more till the next day. Then we took the depth carefully. A good gain on the night. We went on measuring daily. Always a decent gain. Eventually, to cut my story short, we actually got enough to permit of installing a hot and cold system in one cottage.

IS THE DOWSER A SUCCESS?

And I have all those promises of sites of the water-finder's in reserve against the day I want more water. He is not a bit surprised, he says, at my not getting water by boring horizontally to the 17' feet away site. I may not have struck the proper level. He could not be sure to a foot or two of the depth at which the water was; he could only be certain that it was below the spot at which his watch-spring curled and his twigs broke, say about 25 feet or so. Now, don't ask me any more concerning my knowledge of water-finding, because I've told all I know. I've got three guineas' worth of promising sites, and they'll go with the rest of the property when I die, and if I sell it for my own benefit before that, I hope the purchaser will be disposed to put the value on them they cost me. I'm neither a pro nor an anti-dowser. Seeing's believing. Nothing's happened on my place in support or in negation of water-

finding. There are several scientific men who believe in it, there are probabilities in its favour, and there is the awkward question, of course, How do the dowsers make a living if they don't have a reasonable proportion of successes? I say to poultry-keepers who want water, that if there is a local dowser who has had some successes it cannot do any harm if they give him a run—if fees are moderate.

WASTED RAIN WATER.

I was greatly surprised to find at a poultry-keeper's establishment the other day that he was running his rain water to waste. Not only is it so valuable for plants and for saving labour on washing days; the saving of it saves money in the dryness of the ground, not to speak of pipes to carry it off. From an ordinary house and outhouses there is enough rain water the year round to supply domestic needs—if not more. Figure it up from local rainfall and cubic area of roofs and you will see. As to storage place, have a cistern unless you can trust your prospective tank-maker.

THE POULTRY-KEEPER'S FRUIT-TREES.

By the time this is read the poultry-keeper's trees ought to be grease-banded to catch the winter moth. Grease-banding is pasting on the stem of a tree a collar of paper—a grease-proof soot is sold, for the grease does not do the tree bark any good—and then daubing round the middle of the paper a grease which may be bought for the purpose. The winter moth (lady) is wingless, and as she ascends the tree she sticks in the grease. The winter moth (gentleman) has wings, but he goes to see the lady and finds her in the grease, where he perishes also. And then there are on that tree the following year fewer apples with little tunnels bored through them to the core.

The next job is spraying, the secret of the effectiveness of which is not to use a syringe, but a spraying apparatus—cost about 35s., I think—with the most marvellously fine spray. It will also do for disinfecting houses. Use goggles, wear old clothes, and operate on a still day. Wet the trees all over. It is a nasty job, but it is nice to have apples to eat which have not been first nibbled at by insects. You know, of course, that soot and lime make a wash that, brushed on to the stems of trees, clears the bark of mussel scale?

HENS AND APPLES.

What creatures of habit hens are! I have two large pens side by side—one old birds, one this year's. In both are the same class and about the same number of standard apples. Not an apple has fallen in one pen which has not been excitedly devoured. Lots of apples have lain half eaten in pen No. 2. Do apples do birds good or harm? My No. 1 pen has thriven on the hundred or more which have fallen within its borders. But I once heard a poultry expert object to hens having apples. Why? Poultry is, of course, a lot of good in getting pests at the foot of apple-trees. They have to be watched, however, or they will lay bare the fine roots. This can be checked by putting a couple of faggots below each tree.

THE BUSINESS SIDE OF THE DAIRY SHOW.

INTERESTING AND INSTRUCTIVE DISPLAY BY THE APPLIANCE MANUFACTURERS.

NOT the least interesting of the many attractions offered by the Dairy Show was the display made by the numerous manufacturers of poultry appliances, foods, &c. Each year shows a considerable improvement in the attractiveness of the various stands, several on this occasion being remarkable for the artistic taste shown by the owners in setting out the goods for disposal. Competition for the medals offered by the British Dairy Farmers' Association for meritorious appliances was again very keen, and Mr. J. W. Ludlow, the judge, had a difficult task in making his final awards. Space will not permit of a detailed reference to all the exhibits, so we must content ourselves with an all too inadequate reference to those of striking merit.

SPRATT'S PATENT, LIMITED, 24 and 25, Fenchurch-street, E.C., occupied two bays ; the first for the display of the world-famous "Hearson" incubators and foster-mothers and the other for the many excellent foods they manufacture, notably "Laymor" and "Chikko." As is generally acknowledged, the appliance department lacks nothing in completeness ; everything that the poultry-keeper requires may be obtained at "Spratt's," and when purchasing from them, no doubts need be entertained as to securing anything but the very best quality. Amongst the more recent additions to a very complete list of appliances are a trap-nest of unique design, which not only records the egg but prevents the hen from eating it when laid, and a patent egg-turning device. This appliance consists of a strong wooden box with glass cover, inside of which are arranged eight bars of wood with eight divisions—in these divisions the eggs are placed. When it is desired to turn the eggs (the object, of course, being to prevent the yolks adhering to the shell) a brass handle on the outside may be pushed either to the right or left, thus turning the whole of the sixty-four eggs with one movement.

WILLIAM TAMLIN, St. Margaret's Works, Twickenham, S.W., had an extremely attractive stand, his two bays being set off by an artistically-constructed front with facia of red letters on a white background. Mr. Tamlin's goods are so widely known as to make it almost unnecessary to detail them. Of course, the famous "Nonpareil" incubators and foster-mothers occupied a prominent position, being shown in all sizes and in large numbers. In poultry-houses, samples of many of the designs manufactured were on show, the newest line being the "Wonder" house at 16s. 6d., a marvel of cheapness and serviceability. Egg-boxes, bone-cutters, kibbling mills, crushers, egg-testing lamps and foods went towards completing a very extensive catalogue of goods for disposal.

RANDOLPH MEECH, Poole, Dorset, occupied his usual prominent position, whereon he displayed

examples of the hundred and one appliances he manufactures. In order to dismiss from the minds of intending purchasers the idea that inferior quality of material is used in the construction of his poultry-houses, Mr. Meech, on this occasion, showed the major portion of his wares exactly as they came from the workshops without paint or covering of any description ; this in order to prove that only best red wood is used in their construction. As is now well known, Mr. Meech is the pioneer of a system of treating wood with a preservative under hydraulic pressure, which makes it almost indestructible. The price at which Mr. Meech retails his goods is little short of astounding, especially in view of the high quality of material and workmanship.

A. E. W. PHIPPS, Harborne, Birmingham, scored his fifth successive victory at the Dairy Show in the appliances class for incubators shown in operation and, what is of greater importance, introduced to the public a remarkable improvement in the internal construction of incubators. The chief features of his new patent and improved "Perfection" machine are : Regulated ventilation, properly governed and evenly distributed moisture, reversible egg-drawer, and underneath chicken nursery, in addition to upper drying - box. The incubator is constructed with a double glass door, the egg-drawer being a separate construction. Considerable space is allowed between the latter and the glass door which enables the chicks—attracted towards the light—to come forward and drop down on to the canvas diaphragm which is immediately beneath. The removal of this diaphragm discloses the moisture tray, which has four diffusers (the general pattern of incubator has but one large central diffuser), by the aid of which it is claimed that the moisture gradually rises from the tray, and being filtered through the canvas diaphragm produces the perfect uniformity of distribution which is the essential feature and absolute necessity for successful hatching. These are but incidental details towards a scheme for proper government of moisture and ventilation in the machine. Under the bottom floor is a central hole, over which is placed a metal slide, connected with the outside of the case by means of a stout wire. The slide is thus easily manipulated according to the climate and other conditions under which the machine is working, the amount of air and moisture in the machine being reduced according to the requirements. Thus, should the situation be dry, the slide can be half opened ; if damp, then nearly closed ; or if the weather is hot, the canvas diaphragm can be removed altogether, and the whole of the egg-drawer exposed to the uncovered moisture tray. The new machine was undoubtedly one of the features of the Show, and met with a great deal of praise from all who inspected it. Mr. Phipps was also showing other of his well-known appliances, including his "Perfection" foster-mother, and examples of his "Farmer Stubble," "Alexandra" (exhibition type), and "Waverley" houses.

INCUBATOR COMPONENTS Co., Gloucester, made a welcome appearance at the Dairy Show, their exhibit of the highly popular "Gloucester" incubators, in several

patterns, and the "Special Gloucester" outdoor and indoor breeders, being much admired. These machines, made on the hot-air principle, have received unstinted praise from users all over Great Britain and other countries, being undoubtedly thoroughly reliable hatchers and rearers. Workmanship and material are strong points studied in their construction, and the company's guarantee—viz., to refund to any purchaser within three months should the goods be found not as represented—has never been challenged. As a side line, the firm were showing an ingenious egg-opener which created considerable attention. This useful breakfast-table appliance undoubtedly does its work thoroughly and expeditiously, and is well worth the 2s. 6d. asked for it.

There were quite a host of poultry food manufacturers exhibiting. Among them we noticed MESSRS. A. THORPE AND SONS, of Rye, Sussex, whose excellent "Cock o' the Walk" poultry food is now being used by thousands of poultry-keepers throughout the country. In addition to this, they were showing samples of their Sussex dry chick foods, "Lactum" chicken meal, which contains 10 per cent. of dried milk, "Oatum" chicken meal, and Sussex ground oats, of which the firm are large manufacturers.

MESSRS. ARMITAGE BROS., LIMITED, of Nottingham, the originators of the dry food system of chicken rearing, had an extensive display of their wares, as also had MESSRS. J. ASHBY AND SONS, of Brixton Mills, S.W.; W. G. CLARKE AND SONS, Limehouse, manufacturers of "Vigam" for poultry and "Melox" for dogs; G. COOPER AND SONS, Bramford Mills, Bramford, Ipswich, makers of "Lutchie" and agents for "Meatmeal," which we understand have an extensive sale; WHITE, TOMKINS, AND COURAGE, LIMITED, 48, Mark-lane, E.C., whose "Clarendo" poultry foods, including cooked corn and fattening meal, are so highly spoken of; R. HYDE AND CO., Camberwell, S.W., makers of "Vitaz" poultry meal; LIVERINE, LIMITED, Grimsby, makers of "Liverine," "Livo," and "Chuck Chuck" dry foods, &c.; OLD CALABAR BISCUIT COMPANY, Liverpool, whose special lines are "Chickala" poultry meal and "Old Calabar" poultry food; SPILLERS AND BAKERS, LIMITED, Cardiff, famous throughout the country for their "Victoria" chicken meal and "Ovitoline," an egg-producing and health-giving poultry spice; THE MOLASSINE COMPANY, LIMITED, Greenwich, with their "Molassine" poultry and dog foods; A. STILES, Spring Bank Mills, Heathfield, Sussex, with Sussex ground oats and "Sussex" poultry meal; PROUD AND BROWN, of Birkdale, Southport, who had a full line of foods, including "Moregg" ovary powder, in addition to a variety of excellent remedies; J. THORLEY AND SONS, King's Cross, N., makers of "Ovum" spice for poultry; WALKER, HARRISON, AND GARTHWAITES, LIMITED, Ratcliff Cross; and the ALLEN POULTRY COMPANY, of Sawbridgeworth.

Egg-box manufacturers were also well represented in MESSRS. ROBINSON'S PATENTS, LIMITED, 332, Goswell-road, E.C., who are patentees and makers of no fewer than 170 sizes and varieties of egg-boxes, including the

famous "Featherweight," "Anti-Smash," and "Smith-field," generally adopted by the chief dairymen and egg retailers throughout the universe; MARK BAKER, 290, Hornsey-road, London, N., inventor of the patent spring-bottom egg, butter, and poultry boxes; and THOMAS P. BETHELL, of Liverpool, whose "Raylite" and "Record" egg-boxes are in general use. Poultry and dog hampers were the staple exhibits of MESSRS. A. COOK AND CO., of 39, Gerrard-street; and W. AND A. COOK, JUNIOR, of 7, Waterloo Bridge, S.E., both of whom are actual manufacturers.

Useful and well-made poultry appliances were also to be seen at the stands of MESSRS. JOHN SERVICE, of Arkley, Barnet, Herts, who made a feature of asbestos poultry-houses; W. F. SNELL, Marsh Farm, Yeovil, whose portable poultry-house secured the bronze medal; ARTHUR NEVERSON, Beakirk, maker of the self-cleaning fowl-house, which was awarded the silver medal (highest award); THOMAS STEVENS, of Helston; E. H. TAYLOR, of Welwyn, who also made an attractive exhibit of bee appliances; HARRY HEDDITCH, of Martock, Somerset; and LOUIS HENDLE.

MESSRS. J. T. HOBSON AND CO., of Bedford, had an extremely attractive display of their well-known poultry-houses. These houses have for many years past been noted for their excellence and cheapness, which combination has been appreciated by farmers and poultry-keepers generally all over the country. Special mention may be made of the "Harvest" poultry-house, designed specially for farmers having an abundance of sand at their disposal. This house is fitted with outside nest-boxes, on both sides, a strong floor, movable perches, and is mounted on four heavy cast-iron wheels.

An attractive feature of the stand occupied by the WESTMERIA CO., of Leighton Buzzard, was the portable brooder-house, an ingenious, practical, and well-made appliance, which is designed for rearing any number up to 300 chickens. The interior of the structure is partitioned off so that no more than fifty chickens are together in one compartment, thus preventing overcrowding. The great feature of the house lies in the fact that it can be moved from place to place, thus ensuring for the chicks fresh ground. It also has sliding roofs both at back and front, which enable the chicks to enjoy the maximum of fresh air and sunshine, and also give easy access to every part for the purposes of cleaning and attention to the occupants. The firm were also showing the "Westmeria" brooder, which gained the silver medal, highest award at both the Dairy and International Shows last year, and the "Westmeria" incubators, as well as samples of foods, grits, &c.

MESSRS. FINCH AND FLEMING, LIMITED, of Pullox-hill, Ampthill, Beds., were displaying the "Prairie State" sand tray incubator, for which they act as agents in this country, the "F. and F." outdoor and indoor brooders, the "Humphrey" green bone cutter, and sundry other appliances, such as drinking fountains, food troughs, marking rings, egg-boxes, hampers, &c.

The future success of the "Triumph" incubator, recently introduced by the manufacturer, WM. LEA, of

MORE INTERNATIONAL HONOURS for TAMLIN.

ADDED TO THE ALREADY LONG LISTS OF INTERNATIONAL AWARDS AT THE

Central Canadian Exhibition

(SEPTEMBER, 1909),

TAMLIN'S INCUBATOR AND CHICKEN REARER WERE AWARDED TWO GRAND DIPLOMAS

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This was in competition with every principal American and Canadian Manufacturer of Incubators, &c. Awards Judged by a Jury of Government Experts, whose decision was unanimous.

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Write for our Illustrated Catalogue, which gives details of awards obtained. It has 250 Illustrations of Incubators, Chicken Rearers, Poultry Houses, Pens and Coops, Bone Cutters, Kibbling Mills, Food Choppers, Grit Crushers and Smashers, Cramming Machines, Egg Boxes, Drinking Fountains, Troughs—everything for poultry-keeping and rearing. We send it free and post free on application.

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For Health, Pleasure,
and Profit,

By W. M. ELKINGTON,

Will be published during NOVEMBER.

On Sale at all Bookstalls and Newsagents.

Price 1s.

Post free for 1s. 3d. from

BROWN, DOBSON, & CO., Ltd.,
15, ESSEX STREET, STRAND.

the Royal Appliance Works, Birkdale, Southport, is assured, judging by the copies of many remarkable testimonials received from users, which Mr. Lea was exhibiting at his stand. Some users have secured 24 chicks from 25 eggs, 62 from 65, 78 from 80, and 175 from 178 ; this surely should satisfy the most exacting. The "Triumph" is heated by a boiler and circulating tubes ; is strongly made, of the best material, and is good value at the price asked for it. The "Shaw" scientific hen foster-mother and the "Everton" bantam house and run were two other appliances worthy of mention to be seen at this stand.

Fire-resisting incubators and foster-mothers were the features of the exhibit made by CHAS. TOOPE AND SON, of Stepney-square, London, E. These appliances are mainly constructed of asbestos, which renders them also rot and vermin proof, thus substantiating the makers' claims for them being practically indestructible. They were also showing a section of their "Challenge" brooder heater, which is largely used by poultry-farmers for warming the interiors of brooder houses. An automatic non-freezing poultry fountain which is heated by a small oil lamp was another appliance appreciated by all who inspected it.

GILBERTSON AND PAGE, LIMITED, of Hertford, Herts, who are well known as manufacturers of poultry and game foods, have recently launched out as incubator and poultry appliance makers. In the "Gilpa" incubator and foster-mother they have two thoroughly well-

TAKE YOUR LAYERS' RECORDS WITH-
OUT HANDLING BIRDS, by using . . .

Hill's Coloured Marking Rings

Easily applied; do not injure legs; distinctive permanent colours, unaffected by weather; clean, plain surface; bird's number read at a glance; our code allows for numbering up to 1,000. WRITE FOR SAMPLE AND PARTICULARS.

PRICES—10 for 6d., 100 for 4/6, 1,000 for 45/-, Post Free.

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**WALTER BUXTON,
TRINITY POULTRY FARM, BENTWORTH, ALTON, HANTS.**

Station and Telegrams: MEDSTEAD (L. & S. W. R.).

My recent wins include with Jubilee Orpingtons, 1st and 2nd Dairy, 1st and 2nd Hayward's Heath, 1st and 2nd Fleet, etc., with Black Orpingtons and Blue-Laced Wyandottes, 1st and 2nd Kenilworth, 2nd and 3rd Birkenhead, 1st and 3rd Fleet, 1st Camberley, 1st Frome, etc.

Birds for Sale in **Orpingtons, Black, Buff, and Jubilee, in Wyandottes, White, Silver-Laced, and Blue-Laced; also Blue Leghorns, Blue Langshans, and Barred Rocks, Ducks, Aylesbury, Indian Runners, and Buff Orpingtons.**

Vacancy for a Pupil. Inspection invited. Exportations a speciality. Visitors met by appointment.

Show and Stock Birds from 15s. each, upwards. Utility Birds, 5s. and 6s. each.



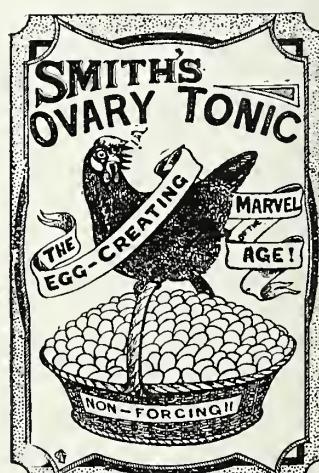
FOXCOTE,
STOURBRIDGE.
MARCH 20, 1908.
I am now using your Ovary Tonic on my early hatched chicks, and it is bringing them on wonderfully well. I have never had them do so well before.
FRANK BLOOMER.

Prices : 2s. size by post 2s. 4d. In bulk 15s. per $\frac{1}{2}$ -gallon (equal to 10 2s. bottles); 25s. per gallon. Carriage paid nearest Railway Station, which please mention. Of all corn dealers, or direct from

**LEONARD SMITH & CO., LTD.,
POULTRY EXPERTS,
60, Bromsgrove St., Birmingham.**
MORE AGENTS WANTED. LIBERAL TERMS.

**HENS
THAT LAY
ARE
HENS THAT
PAY**

BENTHAM POULTRY
YARDS, BENTHAM.
FEB 4, '09.
I have given your Ovary Tonic a good trial, both for the production of eggs and as a tonic for bringing chickens rapidly on. I am recommending it to all my friends.
JAMES TURNER.



made machines, for which there should be a ready demand.

THE DEPENDENCE INCUBATOR CO, LIMITED, of Cambridge-street, Birmingham, are also new-comers. They are showing in the "Superb," "Utility," and "Hot Air" incubators, three well-finished articles, embodying several new ideas. Their brooders are also novel in construction, both the hot-water and hot-air principles being adopted.

A. W. GAMAGE, LIMITED, of Holborn, E.C., were signally successful in competition with their "Holborn" incubators and foster-mothers, the former securing the bronze medal (second prize), the latter both the silver and bronze awards (first and second prizes).

Incubators, brooders, poultry foods, and supplies comprised the display made by the CYPHERS INCUBATOR CO., of 119-125, Finsbury-pavement, E.C., whose goods are so well known and universally adopted as to need but little mention here. The company is one of the oldest of the several firms importing appliances from America, and the excellent quality of their wares has gained for them a favourable opinion amongst poultry-keepers in this country.

THE UTILITY POULTRY CLUB.

THE Utility Poultry Club held its thirteenth annual meeting at the Agricultural Hall during the Dairy Show, Mr. H. L. Hewitt in the chair.

After a brief allusion to the great loss the Club had sustained by the death of E. W. Richardson, the late secretary, the election of officers was proceeded with, and the accounts for the year adopted.

The total receipts for the year, which include the Twelve Months' Laying Competition items and the grant of £35 from the Board of Agriculture, were £666, and the expenditure £42 less, this balance being considerably smaller than that of last year; but apart from the sum of £25 placed to reserve, the Club disbursed £75 in the secretary's honorarium, besides making a grant of £30 to the Six Months' Laying Competition at Street.

Mr. J. N. Leigh reported upon the Four Months' Laying Competition which had just begun under his management at his farm near Rye, in Sussex, and information was given upon the similar competition being held in Yorkshire.

Mr. Reynolds, the manager of the Street Six Months Laying Competition, having given a few facts and figures of the competition under his control, a discussion was carried on upon the subject of poultry-keeping and the preservation of foxes. The resolution which the committee of the Club had passed earlier in the day, and which recommended a conference between the Poultry Club, the National Poultry Organisation Society, and the Utility Poultry Club, was read, and various speeches were made, Messrs. B. W. Horne, G. A. Palmer, W. Reynolds, T. R. Robinson, W. F. Snell, H. L. Hewitt, and others taking part.

WHITE WYANDOTTE CLUB.

DIGEST OF COMMITTEE MEETING—DAIRY SHOW.

CLUB show classification was drawn up. The hon. sec. was instructed to proceed with the elections, omitting any voting for club show judge—this to be dealt with separately.

Alterations in several rules were gone into and passed by committee, subject to confirmation at the general meeting.

Several new members were elected, making a total of over fifty for the year.

Usual votes of thanks terminated the meeting, including one for the use of Messrs. Allen's stall.

Members are reminded that the annual general meeting will be held on the second day of the International Show—time and place later—and that it is the duty of all those who possibly can to attend.

The Club Show is to be held at Cambridge on December 8 and 9, and members should bear in mind that only those whose subscriptions are paid up can enter at reduced fees.

J. S. HICKS, Honorary Secretary.

NATIONAL POULTRY ORGANISATION SOCIETY.

THE monthly meeting of the Central Executive Committee was held on October 7, at 20, Arlington-street, S.W. (by courtesy of the Marchioness of Salisbury), the Marchioness of Salisbury (President) in the chair. Statements of receipts and expenditure for the months of August and September were submitted and approved, and arrangements made for increasing the lists of subscribers and donors. Reports of visits paid to the Marshland and Wigland Society in Norfolk, and also to the Stoke Ferry Depot, were submitted and approved.

MARKETING REPORTS: As a result of the inadequate supply of Rose-Brand eggs as compared with demand, action for largely increasing the number of collecting depots was decided upon.

CHALLENGE CUP FOR WINTER EGG-PRODUCTION: The Eardisland Depot having won the cup three years out of five, it was stated that (according to the rules governing the competition) this depot was now the absolute possessor of same. It was resolved to abandon offering a cup in future competitions and to increase the number of medals offered to successful individual members of depots.

LETTER FROM POULTRY CLUB *re* FOX PRESERVATION: A letter was submitted to the Committee from the Poultry Club *re* fox preservation and its relation to the development of the poultry industry, especially in hunting districts, inviting the N.P.O.S. to appoint delegates to a proposed conference on the question. On the proposal of the Marchioness of Salisbury, seconded by Colonel R. Williams, M.P., it was resolved to appoint the Hon. Mrs. Wilmot and Mr. Edward

OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY,
GAME, AND EGGS FOR THE FOUR WEEKS ENDED OCT. 20, 1909.

ENGLISH POULTRY—LONDON MARKETS.										FOREIGN POULTRY—LONDON MARKETS.									
DESCRIPTION.		1st Week.		2nd Week.		3rd Week.		4th Week.		COUNTRIES OF ORIGIN.		COUNTRIES OF ORIGIN.		PRICES REALISED DURING THE MONTH.		DECLARED VALUES.			
		Each.		Each.		Each.		Each.											
Surrey Chickens	2/6 to 4/6	2/3 to 4/6		Russia		—		—		Turkeys, Per lb.									
Sussex " "	2/6 " 4/6	2/3 " 4/6		2/3 " 4/6		2/3 " 4/6		2/3 " 4/6		Belgium		—		—		—			
Yorkshire "	2/0 " 3/6	1/6 " 2/9		2/0 " 2/9		3/3 " 2/0		3/3 " 2/0		Belgium		—		—		—			
Boston "	2/0 " 3/6	1/6 " 2/9		2/0 " 2/9		3/3 " 2/0		3/3 " 2/0		France		—		—		—			
Essex "	2/0 " 3/6	1/6 " 2/9		2/0 " 2/9		3/3 " 2/0		3/3 " 2/0		United States of America		—		—		—			
Capon	—	—		5/0 " 8/0		5/0 " 8/0		—		Austria		—		—		—			
Irish Chickens	1/9 " 2/6	1/2 " 2/9		2/0 " 2/6		2/0 " 2/6		2/0 " 2/6		Canada		—		—		—			
Live Hens	1/2 " 2/6	1/2 " 2/3		1/3 " 2/3		1/3 " 2/3		1/3 " 2/3		Australia		—		—		—			
Ducklings	2/6 " 3/0	2/6 " 3/6		3/0 " 4/0		3/0 " 4/0		3/0 " 4/0		Price Each During Month.		Price Each During Month.		Price Each During Month.		Price Each During Month.			
Ducks	2/3 " 2/6	2/6 " 3/6		3/0 " 4/0		3/0 " 4/0		3/0 " 4/0		Game.		Game.		Game.		Game.			
Geese	4/6 " 6/0	4/0 " 6/0		5/6 " 8/0		5/6 " 8/0		5/6 " 8/0		£285		£30		£30		£30			
Goslings	5/0 " 6/0	4/0 " 6/0		4/6 " 8/6		4/6 " 8/6		4/6 " 8/6		778		778		778		778			
Irish Turkeys	3/6 " 8/6	3/6 " 8/6		4/6 " 8/6		4/6 " 8/6		4/6 " 8/6		199		199		199		199			
ENGLISH GAME—LONDON MARKETS.										FOREIGN GAME—LONDON MARKETS.									
DESCRIPTION.		Each.		Each.		Each.		Each.		COUNTRIES OF ORIGIN.		COUNTRIES OF ORIGIN.		PRICES REALISED DURING THE MONTH.		DECLARED VALUES.			
Grouse	5/0 to 8/6	5/0 to 8/6		3/6 to 8/6		3/6 to 8/6		2/0 to 4/6		Russia		—		Poultry.		Poultry.			
Partridges	2/0 " 5/0	2/0 " 5/0		3/6 " 5/0		3/6 " 5/0		1/6 " 2/3		Austria-Hungary		—		Game.		Game.			
Pheasants	2/6 " —	— " —		4/0 " —		4/0 " —		6/6 " 3/3		France		—		£433		£433			
Black Game	2/6 " 2/9	2/6 " 2/9		2/3 " 2/9		2/3 " 2/9		2/3 " 2/9		United States of America		—		Game.		Game.			
Hares	1/9 " 3/3	1/9 " 3/3		1/9 " 3/3		2/6 " 3/3		2/6 " 3/3		Other Countries		—		£2,547		£2,547			
Rabbits, Tame	1/0 " 1/9	1/0 " 1/9		1/0 " 1/9		1/0 " 1/9		1/0 " 1/9		Totals		—		8		8			
" Wild	0/6 " 1/1	0/6 " 1/1		0/6 " 1/1		0/6 " 1/1		0/6 " 1/1		3,040		3,040		10,583		10,583			
IRISH EGGS.										FOREIGN EGGS.									
DESCRIPTION.		Per 120.		Per 120.		Per 120.		Per 120.		COUNTRIES OF ORIGIN.		COUNTRIES OF ORIGIN.		PRICES REALISED DURING THE MONTH.		DECLARED VALUES.			
Pigeons, Tame	0/7 " 1/0	0/8 " 1/0		0/6 " 0/8		0/6 " 0/8		0/6 " 0/8		Russia		—		£13,856		£13,856			
Wild Duck	1/6 " 1/9	1/6 " 1/9		1/6 " 1/9		1/6 " 1/9		1/6 " 1/9		Denmark		—		1,164		1,164			
Woodcock	—	—		—		—		—		Germany		—		2,542		2,542			
Snipe	—	—		—		—		—		Italy		—		1,697		1,697			
Plover	0/4 " 0/6	—		—		—		—		France		—		31,255		31,255			
ENGLISH EGGS.										FOREIGN EGGS.									
MARKETS.		Per 120.		Per 120.		Per 120.		Per 120.		COUNTRIES OF ORIGIN.		COUNTRIES OF ORIGIN.		PRICES REALISED DURING THE MONTH.		DECLARED VALUES.			
LONDON	1/1/6 to 1/3/4	1/1/6 to 1/3/6		1/2/6 to 1/5/0		1/0/1 to 1/5/0		1/0/6 to 1/5/0		French		—		£427,271		£427,271			
Provinces.	Eggs per 1/-	Eggs per 1/-		Danish		—		176,289		176,289									
MANCHESTER	7 to 9	7 to 9		Italian		—		4,542		4,542									
BRISTOL	1/0 to 1/1		1/0 to 1/1		Austrian		—		31,255		31,255								
	per doz.	per doz.		per doz.		per doz.		per doz.		Russian		—		23,460		23,460			
	per doz.	per doz.		per doz.		per doz.		per doz.		Austria-Hungary		—		87,538		87,538			
	per doz.	per doz.		per doz.		per doz.		per doz.		Other Countries		—		87,000		87,000			
	per doz.	per doz.		per doz.		per doz.		per doz.		Other Countries		—		37,937		37,937			
	per doz.	per doz.		per doz.		per doz.		per doz.		Total		—		1,794,794		1,794,794			